Heathrow West



Environmental Impact Assessment

Scoping Report – Volume I: Main Report

October 2026

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Environmental Impact Assessment Scoping Report

Chapter 1

Introduction

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1 Introduction

1.1 Purpose of this Report

1.1.1.1 This Environmental Impact Assessment (EIA) Scoping Report has been prepared on behalf of Heathrow West Limited ('the Applicant' / 'HWL') to support a request to the Secretary of State (SoS) for a Scoping Opinion under Regulation 10 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 ('the EIA Regulations'). This request is referred to in this report as the 'Scoping Request'.

1.1.1.2 The Scoping Request relates to the proposed expansion of Heathrow Airport ('the Proposed Development'). The Proposed Development comprises a 2,400m-long third runway, a new Terminal 6, and associated works and infrastructure required to facilitate the expansion and operation of the airport including airfield and supporting infrastructure; surface access and public transport improvements; utilities; river engineering works; environmental mitigation and enhancement measures; construction compounds, support areas and access infrastructure; and any other works required to deliver and operate the Proposed Development.

1.1.1.3 Certain elements of the Proposed Development, including infrastructure routing, operational parameters and displaced assets, remain subject to ongoing optioneering and engagement with statutory bodies. Where details are not yet fixed, the Scoping Report identifies the assumptions applied at this stage and proposes that the Environmental Statement ('ES') will adopt a precautionary approach based on a cautious 'worst case' in line with the principle of the 'Rochdale Envelope' and in accordance with the Planning Inspectorate's Nationally Significant Infrastructure Projects ('NSIPs') – Pre-Application Advice on Environmental Impact Assessment[1].

1.1.1.4 The Scoping Request seeks to establish a clear and proportionate basis for the EIA, focused on the likely significant environmental effects of the Proposed Development and supported by reasoned justification for matters proposed to be scoped into or out of further assessment.

1.1.1.5 The benefits of delivering a proportionate EIA, as defined by the Institute of Sustainability and Environmental Professionals ('ISEP') (2017)[2], formerly known as the Institute of Environmental Management and Assessment ('IEMA'), are to:

[1] Planning Inspectorate (2026), Nationally Significant Infrastructure Projects – Pre-Application Advice on Environmental Impact Assessment. Available at: Nationally Significant Infrastructure Projects: Pre-Application Advice on Environmental Impact Assessment - GOV.UK (Accessed August 2026).
[2] ISEP (formerly IEMA) (2017), Delivering Proportionate EIA. Available at: delivering-proportionate-eia.pdf (Accessed July 2026).

- drive collaborative action and understanding across the EIA community;
- focus assessments so their findings are accessible to all stakeholders;
- reduce uncertainty and risk within project consenting;
- save time and costs for developers, consenting authorities and consultees; and
- allow more time to be spent exploring the delivery of environmental improvements.

1.1.1.6 This Scoping Report has been prepared to provide an overview of the likely significant environmental effects that have been considered in scoping for the EIA for the Proposed Development. It sets out the intended scope and methodologies for the assessment of likely significant environmental effects to be reported in the Environmental Statement (ES). The Scoping Report has been prepared in accordance with Planning Inspectorate Advice 'Nationally Significant Infrastructure Projects: Pre-Application Advice on Environmental Impact Assessment' (March 2024, updated August 2026), for all environmental factors (topics) set out in the EIA Regulations.

1.2 The Applicant

1.2.1.1 The Applicant, HWL, is a company which forms part of the Arora Group. HWL has been established as the dedicated project company responsible for promoting, developing and, subject to the grant of development consent, delivering an alternative approach to Heathrow expansion.

1.2.1.2 The Arora Group is a UK-owned business with a long-standing presence at and around Heathrow Airport. Founded in 1999, the group owns and manages a portfolio of hotels, hospitality and business assets in key UK locations, including a significant presence at Heathrow. Its local interests, operational experience, land interests and established relationships with airlines, airport users, local employees and supply chain partners provide the commercial and delivery context for HWL's Proposed Development. The Arora Group is promoting the Proposed Development as a competitive, privately led expansion proposal that will provide additional airport capacity while improving passenger choice, affordability, operational resilience and service quality.

1.2.1.3 As the Applicant, HWL is responsible for the preparation of the Development Consent Order (DCO) application, including the development of the Proposed Development's design, environmental assessment, consultation strategy, land and property strategy, stakeholder engagement and the preparation of DCO application documents. HWL is engaging with the Department for Transport (DfT), statutory bodies, local authorities, affected landowners, airport stakeholders and local communities to demonstrate that the Proposed Development is capable of being consented, delivered and operated in accordance with relevant policy, legislative and regulatory requirements. HWL will also continue to engage with Planning Inspectorate (PINS).

1.3 Background to the Proposed Development

1.3.1.1 Between 2017 and 2020 HWL promoted a scheme for the construction of a new Terminal 6 within the western terminal campus of Heathrow ('HWL's Previous Project') that was designed to integrate with Heathrow Airport Limited's proposed development ('the HAL Project'), which included a northwest runway. This included engagement with DfT on the then draft Airports National Policy Statement (ANPS), submission of a request for EIA scoping opinion and stakeholder engagement. However, the project was paused following the Covid-19 pandemic.

1.3.1.2 In 2025 HWL restarted the design process, this time for a 2,800m runway alongside a new Terminal 6 building and supporting infrastructure. HWL responded to an invitation from DfT for promoters to bring forward Heathrow expansion schemes capable of informing the review of the ANPS. The runway design continued to evolve, and a 2,400m runway is now proposed to avoid conflict with the M25 and M4 spur. In April 2026, the Civil Aviation Authority (CAA) concurred with the Secretary of State (SoS) for Transport that HWL's 2025 runway work was sufficiently advanced to inform the emerging ANPS review, since renamed the draft Heathrow Expansion National Policy Statement (HENPS). HWL is proceeding with stakeholder engagement on its emerging proposals. The Proposed Development allows for the potential future increase of the 2,400m long third runway to up to 3,500m long, permission for which is not sought through this proposed application.

1.4 Purpose of the DCO Application

1.4.1.1 The Proposed Development is defined as a NSIP under Section 23 of the Planning Act 2008[3] due to the Proposed Development proposing to alter an airport in order to increase its capacity. Instead of planning permission, NSIPs require development consent, which is granted by making a DCO. The purpose of the DCO application is therefore to secure the statutory powers and consents necessary to deliver the Proposed Development as identified in **Chapter 2: The Proposed Development** and facilitate the expansion of Heathrow Airport in accordance with relevant national policy, legislative requirements and the Planning Act 2008.

1.5 Need for the Proposed Development

1.5.1.1 The need for the Proposed Development arises from the long-established requirement for additional airport capacity in the Southeast of England. The Airports Commission concluded that additional runway capacity is required to maintain the UK's international connectivity, support economic growth and address forecast aviation demand. Following a comprehensive assessment of alternatives,

[3] Planning Act (2008) – Section 23. Available at: Planning Act 2008 (Accessed July 2026).

the Airports Commission identified expansion at Heathrow Airport as its preferred option, which is presented further in **Section 1.12.**

1.5.1.2 The Government subsequently established national policy through the ANPS, which recognises the need for additional airport capacity and identifies a northwest runway at Heathrow Airport as the preferred means of meeting that need. The ANPS concludes that additional capacity at Heathrow would deliver economic, connectivity and passenger benefits at a national scale whilst supporting the UK's role as an international aviation hub. The Government have recently consulted on the proposed draft revision to the ANPS, to be known as the HENPS, which will replace the ANPS as the primary policy framework for the development of new runway capacity at Heathrow Airport. The draft HENPS reaffirms the Government's position that there remains a compelling need for additional airport capacity at Heathrow and establishes the policy requirements against which any development consent application for Heathrow expansion will be assessed. Both are presented further in **Sections 1.6 and 1.12.**

1.6 National Airport Infrastructure

1.6.1 Airports National Policy Statement (ANPS)

1.6.1.1 ANPS[4] is the UK Government's national planning policy framework for delivering additional airport capacity in the southeast of England. The ANPS was designated in June 2018 under the Planning Act 2008.

1.6.1.2 The ANPS sets out:

- The Government's policy on the need for new airport capacity in the southeast of England;
- The Government's preferred location and scheme to deliver new capacity; and
- Particular considerations relevant to a development consent application to which the Airports NPS relates.

1.6.1.3 The Airports Commission received a total of 52 proposed schemes, over 40 of which suggested building additional runway infrastructure; they were published on the Commission's website and stakeholders were invited to submit views and additional evidence[5]. Options for new runway infrastructure were assessed against the Commission's sift criteria[6] and on this basis two potential sites were selected for further analysis and assessment (Gatwick and Heathrow Airports) across three schemes. The shortlisted schemes included a proposal for a second runway at Gatwick Airport, an extension to the northern runway at Heathrow Airport and

[4] Department for Transport. Airports National Policy Statement. June 2018. Available at: Airports National Policy Statement - GOV.UK (accessed on: 24/07/2026).
[5] Airports Commission. December 2013. Airports Commission: Interim Report. Available at: Airports Commission: Interim Report (accessed on: 17/09/2026).
[6] Airports Commission. May 2013. Guidance Document 02: Long Term Capacity Options: Sift Criteria. Available at: Guidance Document 02 (accessed on: 17/09/2026)

expansion of Heathrow Airport through the construction of an additional northwest runway.

1.6.1.4 The ANPS outlines that the Airports Commission concluded, within its Final Report in July 2015[7], that the proposed northwest runway at Heathrow Airport, combined with *a 'significant package of measures to address its environmental and community impacts'*, presented the strongest case for expansion and would offer the greatest strategic and economic benefits to the UK. The UK Government reviewed the Airport Commission's findings and undertook further assessment surrounding the proposals' impacts in relation to air quality, noise, carbon emissions and local communities, published in the following reports:

- Review of Airport Commission's final report[8];
- Air quality re-analysis: impact of new pollution climate mapping projections and national air quality plan[9];
- Further review and sensitivities report: airport capacity in the southeast[10];
- Airport capacity programme global comparison of airport mitigation measures[11];
- Airports Commission surface access works: strategic road network proposals – validation of costs and delivery assumptions[12]; and
- Heathrow Airport Limited: statement of principles[13].

1.6.1.5 Some of the reports have since been updated and include:

- 2017 plan update to air quality re-analysis: impact of 2017 air quality plan and associated pollution climate mapping sensitivity testing[14];
- Updated appraisal report: airport capacity in the southeast[15]; and

[7] Airports Commission. July 2015. Airports Commission: Final Report. Available at Airports Commission: final report (accessed on: 17/09/2026)
[8] Department for Transport. Review of Airport Commissions final report. October 2016. Available at: Airport expansion: DfT review of the Airports Commission's final report - GOV.UK (accessed on: 24/07/2026).
[9] Department for Transport. Air quality re-analysis: impact of new pollution climate mapping projections and national air quality plan. October 2016. Available at: [Withdrawn] Airport expansion: further analysis of air quality data - GOV.UK (accessed on: 24/07/2026).
[10] Department for Transport. Further review and sensitivities report: airport capacity in the southeast. October 2016. Available at: [Withdrawn] Airport expansion: further review and sensitivities report - GOV.UK (accessed on: 24/07/2026).
[11] Department for Transport. Airport capacity programme global comparison of airport mitigation measures. October 2016. Available at: Airport expansion: global comparison of airport mitigation measures - GOV.UK (accessed on: 24/07/2026).
[12] Highways England. Airports Commission Surface Access Works: Strategic Road Network Proposals Validation of Costs and Delivery Assumptions. Available at Airports Commission surface access works: strategic road network proposals - validation of costs and delivery assumptions (accessed 24/07/2026)
[13] Department for Transport. Heathrow Airport Limited: statement of principles. October 2016. Available at: [Withdrawn] Heathrow Airport Limited: statement of principles - GOV.UK (accessed on: 24/07/2026).
[14] Department for Transport. 2017 plan update to air quality re-analysis: impact of 2017 air quality plan and associated pollution climate mapping sensitivity testing. October 2017. Available at: Airport expansion: further updated air quality re-analysis - GOV.UK (accessed on: 24/07/2026).
[15] Department for Transport. Updated appraisal report: airport capacity in the southeast. October 2017. Available at: Airport expansion: updated cost and benefits appraisal - GOV.UK (accessed on: 24/07/2026).

- Relationship framework document between the Secretary of State for Transport and Heathrow Airport Limited[16].

1.6.1.6 The ANPS states the following conclusion was made by the government on review of the CAA's findings:

"The Government believes that the Heathrow Northwest Runway scheme, of all the three shortlisted schemes, is the most effective and most appropriate way of meeting the needs case. As such, the Government concluded that the other shortlisted schemes do not represent true alternatives to the preferred scheme"[17].

1.6.1.7 The ANPS provides guidance on EIA for the schemes coming forward proposing airport expansion at Heathrow Airport including the requirements to identify, describe and assess effects on human beings, fauna and flora, soil, water, air, climate, the landscape, material assets and cultural heritage, and the interaction between them in line with the European Union's Environmental Impact Assessments Directive[18].

1.6.1.8 Chapter 5 of the ANPS covers the potential impacts, assessments and planning requirements required for the Heathrow Northwest Runway Scheme to gain development consent. This includes guidance surrounding the following topics: surface access; air quality; noise; carbon emissions; biodiversity and ecological conservation; land use including open space, green infrastructure and green belt; home office assets; resource and waste management; flood risk; water quality and resources; historic environment; landscape and visual impacts; land instability; dust, odour, artificial light, smoke and steam; community compensation; community engagement; skills and ruling out a fourth runway.

1.6.2 Draft Heathrow Expansion National Policy Statement (HENPS)

1.6.2.1 The draft HENPS[19] provides an update of the previous ANPS, in light of updated legislation, which requires reviews and updates of National Policy Statements to be undertaken at least every five years[20]. Once designated, the HENPS will constitute the primary policy document and decision-making framework in relation

[16] Department for Transport. Relationship framework document between the Secretary of State for Transport and Heathrow Airport Limited. June 2018. Available at: Heathrow Airport expansion: relationship framework document - GOV.UK (accessed on: 24/07/2026).
[17] Department for Transport and The Rt Hon Chris Grayling. Oral statement to Parliament – Airport Capacity. October 2016. Available at: Airport capacity - GOV.UK (accessed on: 24/07/2026).
[18] Directive 2014/52/EU of the European Parliament and of the Council amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment. The amendments to Directive 2011/92/EU made by Directive 2014/52/EU have been transposed into domestic legislation. The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 have, subject to transitional arrangements, with amendments, consolidated the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 and various amending regulations.
[19] Department for Transport. Draft Heathrow Expansion National Policy Statement. June 2026. Available at: Draft Heathrow Expansion National Policy Statement - GOV.UK (accessed on: 24/07/2026).
[20] UK Public General Acts. Planning and Infrastructure Act 2025. December 2025. Available at: Planning and Infrastructure Act 2025 (accessed on: 24/07/2026).

to any DCO application for the expansion of Heathrow Airport, replacing the ANPS.

1.6.2.2 The draft HENPS provides the basis for decision making and the policies within it will have effect in relation to applications for DCOs covering any of the following:

- *"A Northwest Runway having a runway length of up to 3,500m and forming part of a scheme which, on completion, is capable of enabling at least 260,000 additional air transport movements (ATMs) per annum;*
- *Any new terminal infrastructure or the reconfiguration of terminal facilities associated with the Northwest Runway at Heathrow Airport; and*
- *Any associated infrastructure, surface access facilities and changes to the strategic road network."*

1.6.2.3 The draft HENPS sets out the following:

- The Government's policy on the need for increased capacity at Heathrow Airport;
- Why the Government has selected the Heathrow Northwest Runway scheme for the purposes of the Airports NPS review;
- The criteria for good design at airports; and
- The potential impacts of the Heathrow Northwest Runway scheme and the assessments that an applicant will need to carry out.

1.6.2.4 The consultation period on the draft HENPS closed on the 1st September 2026. The outcomes of this will be monitored throughout the EIA.

1.7 The Need for Environmental Impact Assessment

1.7.1.1 The EIA requirements applicable to NSIPs are set out in the EIA Regulations. The EIA Regulations specify which developments are required to undergo EIA, and proposals relevant to the NSIP planning process are listed under either 'Schedule 1' or 'Schedule 2', where those listed under Schedule 1 must be subject to EIA and those under Schedule 2 may be subject to an EIA by virtue of the size or nature of the development.

1.7.1.2 Paragraph 7(1) of Schedule 1 to the EIA Regulations refers to:

"Construction of lines for long distance railway traffic and of airports with a basic runway length of 2,100 metres or more."

1.7.1.3 The Proposed Development includes a 2,400m runway, and therefore falls within paragraph 7(1) of Schedule 1 of the EIA Regulations. As such, the EIA will be prepared in respect of the Proposed Development, in support of the DCO application.

1.8 EIA Scoping and the Scoping Request

1.8.1.1 Following the completion of the surveys, assessments and consultation processes outlined in this report, an application for a DCO will be made to the Planning Inspectorate.

1.8.1.2 This Scoping Report supports a request for Scoping Opinion pursuant to EIA Regulations from the SoS on the scope and level of detail of the information to be provided in the ES. It includes the information required by Regulation 10(3) as follows:

a. a plan sufficient to identify the land;
b. a description of the Scheme, 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.

1.8.1.3 This Scoping Report, Volume I (Main Text), is supported by a suite of figures, appendices and draft commitments register, which are provided in Volumes II, III, and IV, respectively. The remainder of this Volume (Volume I) is structured as shown in **Table 1-1.**

1.8.1.4 **Chapter 4: Approach to EIA** covers the location of information required for inclusion, relating to the requirements of the EIA Regulations.

Table 1-1: Scoping Report Structure

Chapter Number	Chapter	Detail
1	Introduction	Sets out the context of the Applicant, Proposed Development and the EIA scoping process.
2	The Proposed Development	Describes the components of the DCO project for EIA Scoping and details of the Scheme.
3	Description of the Existing Site and its Surroundings	Describes the scoping boundary area and surrounding areas' current uses (Baseline). A summary of the technical baseline is also provided in line with each technical chapter.

Chapter Number	Chapter	Detail
4	Approach to EIA	Describes the proposed scope of the assessment, including: • The proposed methodology in relation to the EIA regulations; • Spatial and temporal scope; • Approach to identifying significance; • Commitments register; • Cumulative and in-combination effects; and • Engagement.
5 – 23	Technical topic Chapters	Outlines the proposed scope of the assessment for each technical topic, including details of the following: • Discussion of relevant policy and legislation; • Stakeholder engagement; • Proposed study area; • Sources of data used in scoping; • Baseline conditions; • Likely significant effects requiring assessment; • Effects not requiring assessment; • Proposed approach to assessment; • Proposed approach to mitigation; and • Summary.
24	Cumulative and In-combination Effects	A summary of the approach to assessing the cumulative and in-combination effects of the Proposed Development.
25	Proposed Structure of the ES	Provides the proposed structure for the Environmental Statement (ES).
26	Summary	Summary of the proposed scope of assessment, including the likely significant effects proposed to be scoped in and out of assessment.
27	Glossary	Provides a list of defined terms used across the DCO, specialised terms, definitions and abbreviations specific to the EIA scoping report and later stages of the EIA.

1.9 Competence

1.9.1.1 The preparation of the EIA is being led by Stantec with support from others. The ES will be prepared by competent experts, pursuant to Regulation 14(4) of the EIA Regulations and will outline the relevant expertise or qualifications of the experts.

1.9.1.2 **Table 1-2** details the key topic authors that will be providing technical assessment work contributing to the EIA, with further details provided within **Appendix 1-1**.

Table 1-2: Scoping Report Topic Authors

Topic	Author
EIA Coordinators	Stantec
Air Quality and Odour	CERC and Cass Allen
Biodiversity	APEM
Ornithology	APEM
Greenhouse Gases	Stantec
Climate Change	Stantec
Community	Volterra
Economics and Employment	Volterra
Recreation	Volterra
Historic Environment	Stantec
Health	Stantec
Landscape, Townscape and Visual Impact	Stantec
Ground Conditions	Stantec
Agricultural Land and Soils	Kernon Countryside Consultants
Materials and Waste	Continuplan
Major Accidents and Disasters	Stantec
Noise and Vibration	Bickerdike Allen
Traffic and Transport	Stantec

Topic	Author
Water Environment	APEM and Stantec
Lighting	Stantec

1.10 Other Assessments

1.10.1 Airspace Change Process

1.10.1.1 The Proposed Development will require changes to airspace design and aircraft flight procedures at Heathrow Airport. Airspace changes in the UK are not consented under the DCO process and are instead consented through a separate regulatory process overseen by the CAA under CAP1616: Airspace Change Process[21]. CAP1616 establishes the framework for the design, assessment, consultation and approval of airspace changes.

1.10.1.2 Whilst the DCO and EIA processes will consider the likely environmental effects of the Proposed Development, detailed airspace design and associated environmental assessment will be undertaken through the separate CAP1616 process. The CAP1616 process includes a number of stages requiring consideration of environmental factors alongside operational, safety and airspace efficiency requirements. CAP1616i – Environmental Assessment Requirements and Guidance for Airspace Change Proposals[22], sets out the environmental assessment requirements, in accordance with the Air Navigation Guidance 2017[23]. Environmental topics that must be considered include: aircraft noise, greenhouse gas emissions, local air quality, tranquillity, and biodiversity.

1.10.1.3 The UK Airspace Modernisation Strategy[24] (AMS) is the CAA's long-term strategy for modernising the design, technology and operation of UK airspace up to 2040. The AMS has four strategic objectives:

- Safety;
- Integration;
- Simplification; and
- Environment.

[21] UK Civil Aviation Authority. Airspace Change Process CAP 1616 Version 5.1. September 2025. Available at: CAP 1616 - Airspace Change Process (accessed on: 28/08/2026).
[22] UK Civil Aviation Authority. Environmental Assessment Requirements and Guidance for Airspace Change Proposals CAP 1616i. November 2023. Available at: Environmental Assessment Requirements and Guidance for Airspace Change Proposals (accessed on: 28/08/2026).
[23] Department for Transport and Civil Aviation Authority. UK Air Navigation Guidance 2017. October 2017. Available at: https://www.gov.uk/government/publications/uk-air-navigation-guidance-2017 (accessed on: 28/08/2026).
[24] Department for Transport and Civil Aviation Authority. Airspace Modernisation Strategy. Available at: https://www.caa.co.uk/commercial-industry/airspace/airspace-modernisation/airspace-modernisation-strategy/ (accessed on: 28/08/2026).

1.10.1.4 The AMS summarises the environmental objective as the following:

"Environmental sustainability will be an overarching principle applied through all airspace modernisation activities. Modernisation should deliver the Government's key environmental objectives with respect to air navigation as set out in the Government's Air Navigation Guidance and, in doing so, will take account of the interests of all stakeholders affected by the use of airspace."

1.10.1.5 NATS (En Route) plc (NERL) has been appointed as the UK Airspace Design Service[25] (UKADS) provider under the UK Airspace Modernisation Strategy. NERL is responsible for undertaking coordinated airspace design activities and developing airspace design options within areas of UK airspace, including London Heathrow, which falls within the London Terminal Manoeuvring Area (LTMA) Region. In undertaking this role, NERL will make key design decisions that influence the eventual alignment of flight paths and, consequently, the nature and distribution of associated environmental effects.

1.11 Consideration of Alternatives

1.11.1.1 Schedule 4 and Regulation 14(2)(d) of the EIA Regulations require that the ES should include "a description of the reasonable alternatives studied by the applicant, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment". This requirement is reiterated within the draft HENPS (paragraph 4.49).

1.11.1.2 There is no statutory requirement for an assessment of alternatives within the Scoping Report; however, the PINS NSIPs Advice Page – Nationally Significant Infrastructure Projects: Pre-Application Advice on Environmental Impact Assessment[26] recommends the inclusion of "*an outline of the reasonable alternatives studied and the reasons for selecting the preferred option*".

1.11.1.3 For the purpose of alternatives, the Proposed Development could be considered on three levels: at a national level, at a scheme level and at the project level. At the national level, a lengthy analysis of alternatives for UK airport expansion, undertaken by the Airports Commission, preceded the development of the ANPS and subsequent draft HENPS (discussed in **Sections 1.6 and 1.12**). This resulted in the selection of Heathrow Airport as the preferred location for new airport capacity in the Southeast of England.

[25] Civil Aviation Authority. UKADS and UKACS licence obligations: strategic objectives. November 2025. Available at: https://www.gov.uk/government/publications/ukads-and-ukacs-licence-obligations-strategic-objectives/ukads-and-ukacs-licence-obligations-strategic-objectives (accessed on: 28/08/2026).
[26] Planning Inspectorate. Nationally Significant Infrastructure Projects: Pre-Application Advice on Environmental Impact Assessment, EIA Scoping. July 2026. Available at: Nationally Significant Infrastructure Projects: Pre-Application Advice on Environmental Impact Assessment - GOV.UK (accessed on 27/08/2026)

1.11.1.4 The second level of alternatives is the broad scheme alternatives for the Proposed Development. An alternative scheme for new and reconfigured terminal capacity exists in the form of the HAL Project. It is therefore proposed that the principal components of the HAL Project which are different from the Proposed Development form the key comparison scheme design for the purpose of the consideration of broad scheme alternatives.

1.11.1.5 The HAL Project is currently in pre-application stages, and proposes 'Expansion of Heathrow Airport to enable at least 740,000 air traffic movements per annum and including a new runway to the north-west of the existing airport; supporting airfield, terminal and transport infrastructure; works to the M25, local roads and rivers; temporary construction works, mitigation works and other associated development'. The EIA for the Proposed Development will consider the relevant main alternatives in the HAL Project where information is publicly available.

1.11.1.6 The final level of alternatives is at the project level and includes development design, optioneering, technology, location, size and scale of specific site elements. These design decisions are an iterative process and are informed via consultation, technical surveys and assessments, environmental assessments and cost benefit analysis.

1.11.1.7 Following the broad methodology set out above, in the preparation of the ES, full consideration will be given to the reasonable alternatives studied, and the ES will detail the reasoning behind the preferred choice, considering environmental, social and economic effects.

1.12 Legislation, Policy and Guidance

1.12.1.1 This Scoping Report has been prepared with regard to the relevant legislative, policy and guidance framework applicable to the Proposed Development and the EIA process. The preparation of the Scoping Report is informed by the requirements of the Planning Act 2008, the EIA regulations and associated national infrastructure planning guidance, which together establish the framework for the EIA and the preparation of applications for DCOs.

1.12.1.2 Given the broad range of environmental topics considered within the EIA, a comprehensive review of legislation, policy and guidance has been undertaken for each technical discipline. To avoid duplication, detailed topic-specific legislation, planning policy, standards and best practice guidance are presented within the relevant technical chapters (**Chapters 5-23**) of this Scoping Report.

1.12.2 Legislation

Planning Act 2008 (PA 2008)[27]

1.12.2.1 The Planning Act 2008 provides the legislative framework for the consent of Nationally Significant Infrastructure Projects through the Development Consent Order process. It is fundamental to EIA scoping as it establishes the pre-application procedures within which the potential environmental effects are identified and a scope and methodology of assessment identified to be later reported in the Environmental Statement.

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017[28]

1.12.2.2 The EIA Regulations are the principal environmental assessment regulations applicable to NSIPs seeking consent through a DCO under the Planning Act 2008. They establish the legal framework for identifying, assessing and reporting the likely significant environmental effects of a proposed development before a consent decision is made.

1.12.3 National Planning Policy

Airports National Policy Statement (ANPS)[29]

1.12.3.1 The ANPS is a UK Government National Policy Statement designated in June 2018 under the Planning Act 2008. It provides the policy framework for delivering additional airport capacity in the southeast of England and identifies a Northwest Runway at Heathrow Airport as the Government's preferred solution. The ANPS provides the policy framework for the Government's approach to securing additional airport capacity in the southeast of England.

Heathrow Expansion National Policy Statement (HENPS)[30]

1.12.3.2 The draft HENPS provides the proposed national policy framework for decision-making on applications for a Northwest Runway at Heathrow Airport and associated infrastructure. The draft statement was prepared to update the 2018 Airports National Policy Statement in response to legislative, policy and

[27] Ministry of Housing, Communities and Local Government. Planning Act 2008: Introduction to National Infrastructure Planning Guidance (July 2026). 3 July 2026. Available at: Planning Act 2008: Introduction to National Infrastructure Planning Guidance (July 2026) - GOV.UK (accessed on: 22/07/2026).
[28] UK Government. The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. 2017. Available at: The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (accessed on: 22/07/2026).
[29] Department for Transport. Airports National policy Statement: new runway capacity and infrastructure at airports in the southeast of England. 5 June 2018. Available at: Airports National Policy Statement - GOV.UK (accessed on: 22/07/2026).
[30] Department for Transport. Draft Heathrow Expansion National Policy Statement. 18 June 2026. Available at: Draft Heathrow Expansion National Policy Statement - GOV.UK (accessed on: 22/07/2026).

environmental changes and is intended to ensure that Heathrow expansion aligns with Government objectives relating to air quality, climate change, economic growth and noise. The draft HENPS establishes a key strategic planning and environmental policy context for Heathrow-related infrastructure and identifies matters that are likely to be of particular importance in the assessment of environmental effects. Following designation of the draft HENPS, it will constitute the primary policy document and decision-making framework as it relates to the future application for expansion at Heathrow Airport.

National Networks National Policy Statement (NNNPS)[31]

1.12.3.3 The National Networks National Policy Statement sets out the need for and government policies to deliver development of Nationally Significant Infrastructure Projects (NSIPs) on the national road and rail networks in England, including strategic rail freight interchanges (SRFIs) and major road projects.

National Planning Policy Framework (NPPF)[32]

1.12.3.4 The NPPF sets out the Government's planning policies for England and provides the overarching framework for plan-making and decision-making within the planning system. The current version was published in August 2026, replacing the previous version published in December 2024. It promotes a presumption in favour of sustainable development and seeks to balance economic, social and environmental objectives.

Environmental Improvement Plan (EIP)[33]

1.12.3.5 The EIP is the UK Government's long-term strategy for improving the natural environment in England. The EIP 2025 is the first statutory revision of the 25 Year Environment Plan published under the Environment Act 2021. It sets out how government intends to achieve environmental recovery through targets, policies and delivery measures.

[31] Department for Transport. National Networks National Policy Statement. 6 March 2024. Available at: National Networks National Policy Statement - GOV.UK (accessed on: 22/07/2026).
[32] Ministry of Housing, Communities and Local Government. National Planning Policy Framework. August 2026. Available at: https://assets.publishing.service.gov.uk/media/6a8334c03bd75b81e2329ac4/National_Planning_Policy_Framework.pdf (accessed on: 28/08/2026).
[33] Department for Environment, Food & Rural Affairs. Environmental Improvement Plan 2025. 1 December 2025. Available at: Environmental Improvement Plan 2025 - GOV.UK (accessed on: 22/07/2026).

1.12.4 Aviation Policy

Aviation Strategy 2050: The Future of UK Aviation[34]

1.12.4.1 Aviation 2050 remains a draft strategy document prepared by the Government for consultation in 2018. Whilst not adopted policy, the proposal provides an indication of Government consideration of potential future noise policy changes.

Policy Paper: Government update on airport expansion 2025[35]

1.12.4.2 The DfT's policy paper, Government Update on Airport Expansion, published on 30 January 2025, reaffirms the Government's support for airport expansion as a means of promoting economic growth, improving international connectivity and strengthening the UK's position as a global aviation hub. The paper notes the introduction of the Jet Zero Taskforce and Sustainable Aviation Fuel Mandate.

Jet Zero: Strategy for Net Zero by Aviation 2050[36]

1.12.4.3 The Jet Zero strategy sets out the Government's plan for delivering net zero aviation by 2050.

Sustainable Aviation Fuel Mandate[37]

1.12.4.4 The Sustainable Aviation Fuel (SAF) Mandate is the UK Government's principal policy mechanism for reducing greenhouse gas emissions from the aviation sector. Introduced through the SAF mandate framework and commencing in 2025, the policy places a legal obligation on aviation fuel suppliers to supply increasing quantities of sustainable aviation fuel as a proportion of total UK aviation fuel demand.

Flightpath to the Future: A Strategic Framework for the Aviation Sector[38]

1.12.4.5 Flightpath to the Future sets out a 10-year vision for the future of the aviation industry, focuses on building a modern, innovative, and efficient sector, emphasising sustainability and recovery from the COVID-19 pandemic.

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[34] Department for Transport. Aviation 2050: the future of UK aviation. 17 December 2018. Available at: Aviation 2050 — the future of UK aviation - GOV.UK (accessed on: 22/07/2026).
[35] Department for Transport. Policy Paper: Government update on airport expansion. January 2025. Available at: Government update on airport expansion - GOV.UK (accessed 17/09/2026).
[36] Department for Transport. Jet Zero strategy: delivering net zero aviation by 2050. 19 July 2022. Available at: https://www.gov.uk/government/publications/jet-zero-strategy-delivering-net-zero-aviation-by-2050 (accessed on: 22/07/2026).
[37] Department for Transport. Sustainable Aviation Fuel (SAF) Mandate. July 2026. Available at: Sustainable Aviation Fuel (SAF) Mandate - GOV.UK (accessed 17/09/2026)
[38] Department for Transport. Flightpath to the future: a strategic framework for the aviation sector. 26 May 2022. Available at: Flightpath to the future: a strategic framework for the aviation sector - GOV.UK (accessed on: 22/07/2026).

1.12.5 Regional Planning Policy

London Environment Strategy[39]

1.12.5.1 The London Environment Strategy provides a strategy to bring together approaches to every aspect of London's environment, integrating approaches for air quality, green infrastructure, climate change mitigation and energy, waste, adapting to climate change, ambient noise and low carbon circular economy.

The London Plan[40]

1.12.5.2 The London Plan 2021 is the Spatial Development Strategy for Greater London. It sets out a framework for how London will develop over the next 20-25 years and the Mayor's vision for Good Growth.

1.12.5.3 The Draft London Plan 2026 is currently under consultation until 15th October 2026. Current timescales surrounding its adoption are unknown, however, this is expected to supersede the 2021 plan, and will be monitored moving forward to support the EIA.

West London Waste Plan[41]

1.12.5.4 In 2015 six west London Boroughs (Brent, Ealing, Harrow, Hillingdon, Hounslow and Richmond upon Thames) along with the Old Oak and Park Royal Development Corporation (OPDC) published a Joint Waste Plan for the future management of waste produced in their areas. The West London Waste Plan (WLWP) plans for all waste in the plan area up to 2031. The Plan contains policy to promote sustainable waste management, prioritising waste reduction, recycling and composting. It does this by identifying suitable sites for development of new waste facilities and safeguarding all existing waste sites within west London.

1.12.5.5 The six London Boroughs are currently undergoing Regulation 19 Consultation on the Proposed Submission West London Waste Plan. This consultation period closed on 28th September 2026, and outcomes will be monitored moving forward to support the EIA.

[39] Greater London Authority. London Environment Strategy. 31 May 2018. Available at: https://www.london.gov.uk/programmes-and-strategies/environment-and-climate-change/london-environment-strategy (accessed on: 22/07/2026).
[40] Greater London Authority. The London Plan 2021. 2 March 2021. Available at: https://www.london.gov.uk/programmes-strategies/planning/london-plan/london-plan-2021 (accessed on: 22/07/2026)
[41] West London Waste Plan. July 2015. Available at: West London Waste Planning (accessed on: 22/07/2026)

West London Strategic Infrastructure Delivery Plan[42]

1.12.5.6 The West London Strategic Infrastructure Delivery Plan sets out the strategic infrastructure the sub-region will need to support its sustainable growth into the 2040s. It focusses on infrastructure of cross-borough importance to delivering growth, particularly in opportunity areas or other places prioritised for development.

1.12.6 Local Planning Policy

1.12.6.1 The Scoping Boundary is located within a number of Local Planning Authorities, falling across Greater London Authorities (GLA) and Surrey County Council (SCC), including:

- The London Borough of Hillingdon;
- The London Borough of Hounslow;
- Spelthorne Borough Council;
- Slough Borough Council;
- The Royal Borough of Windsor and Maidenhead;
- Runnymede Borough Council;
- Buckinghamshire Council;
- Richmond Upon Thames Borough Council; and
- The London Borough of Ealing.

1.12.6.2 Please see **Figure 1-1** – EIA Scoping Boundary.

1.12.6.3 The current ANPS, and HENPS once designated, sets the primary policy and decision-making framework for the determination for additional capacity at Heathrow Airport. However, local planning policy will be a material consideration in the determination of any application, provided it is consistent with the ANPS and draft HENPS, once designated, and will be important in the preparation of any Local Impact Report prepared by relevant local authorities with regard to the DCO application.

1.12.6.4 As the NPSs form the basis for decision making on NSIPs, NSIPs are not subject to Secton 38(6) of the Planning and Compulsory Purchase Act 2004, which states that determination of planning applications must be made in accordance with a local development plan. Local planning policy does not therefore set the tests for the acceptability of NSIPs.

1.12.6.5 However, some Local Plan policies may be relevant where they inform the assessment of potential effects e.g. by identifying land allocations and environmentally sensitive areas. If there is a conflict between NPS and local policies, the NPS takes precedence.

[42] London Alliance. West London Strategic Infrastructure Delivery Plan 2021-40. March 2022. Available at: WLA-Strategic-IDP-FINAL.pdf (Accessed on: 22/07/2026).

1.12.6.6 The EIA will consider Local Plan policies where relevant to the consideration of impacts. The DCO application papers will also include documents such as the Planning Statement which will include an analysis against relevant national, regional and local planning policies.

1.12.7 Guidance

Planning Inspectorate (PINS) Advice and National Infrastructure Planning Guidance[43]

1.12.7.1 The PINS Advice and National Infrastructure Planning Guidance (NIPG) provide important non-statutory guidance for applicants preparing applications under the Planning Act 2008. Together, they explain the requirements of the Nationally Significant Infrastructure Projects (NSIP) regime and promote a proportionate, transparent and evidence-based approach to project development, consultation, environmental assessment and examination. The guidance supports applicants in understanding the expectations of the Planning Inspectorate and the Secretary of State throughout the DCO process. The EIA will consider the advice pages and guidance notes individually as appropriate.

Planning Practice Guidance[44]

1.12.7.2 Planning Practice Guidance (PPG) provides detailed guidance supporting the implementation of planning policy in England, including topic-specific guidance relating to Environmental Impact Assessment, air quality, climate change, flood risk, biodiversity net gain, historic environment and other environmental matters. The PPG promotes a proportionate, evidence-led approach to assessment and assists in determining the scope of EIA studies, environmental baselines, assessment methodologies and mitigation requirements. The EIA will consider the guidance notes individually as appropriate.

Environmental Assessment Requirements and Guidance for Airspace Change Proposals[45]

1.12.7.3 This publication provides guidance to the aviation industry on providing environmental and habitats regulations assessments for airspace change proposals.

[43] Planning Inspectorate. Nationally Significant Infrastructure Projects: Advice Pages. March 2024, amended August 2026. Available at: Nationally Significant Infrastructure Projects: Advice pages - GOV.UK (accessed on 28/08/2026).
[44] Ministry of Housing, Communities and Local Government. Planning Practice Guidance. February 2024. Available at: Planning practice guidance - GOV.UK (accessed on:17/09/2026).
[45] UK Civil Aviation Authority. Environmental Assessment Requirements and Guidance for Airspace Change Proposals. 24 January 2024. Available at: CAP1616i: Environmental Assessment Requirements and Guidance for Airspace Change Proposals | UK Civil Aviation Authority (accessed on: 22/07/2026).

Environmental Impact Assessment Scoping Report

Chapter 2

The Proposed Development

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Tables

Table 2-1: Parameter Plans and Relevant Sections of this Chapter 2

2 The Proposed Development

2.1 Introduction

2.1.1.1 This Chapter of the Scoping Report provides a description of the Proposed Development and forms the basis of the EIA scoping process for the DCO Application. It presents the current emerging design of the Proposed Development together with how those components are anticipated to be constructed (including enabling works, site preparation, demolition, temporary works and commissioning), operated (including maintenance) and decommissioned where this is relevant. The information presented reflects the stage of design development reached at the time of preparing this Scoping Report and is intended to provide sufficient detail to inform the identification and scoping of likely significant environmental effects.

2.1.1.2 For clarity, the Proposed Development comprises the expansion of Heathrow that is intended to be the subject of the DCO Application. The description does not include wider airport modernisation, renewal, maintenance or operational improvement works unless they form part of, or are required to facilitate, the Proposed Development.

2.1.1.3 Regulation 10(3)(b) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017[1] requires *"a description of the Proposed Development, including its location and technical capacity"* to be provided. Accordingly, this chapter describes the Proposed Development and the principal activities that may give rise to environmental effects during construction, operation and where relevant decommissioning. The information presented will be used to inform the identification of environmental receptors, impact pathways and potential likely significant effects to be considered through the EIA process.

2.1.1.4 The description of the Proposed Development is accompanied by a Scoping Boundary (see **Figure 1.1**), which identifies the geographic extent of the Proposed Development and provides the basis for determining the study areas for the environmental topic assessments. In addition, a suite of Parameter Plans has been prepared to illustrate the components of the Proposed Development and the design parameters currently envisaged. These Parameter Plans establish the preliminary maximum design assumptions that have informed this Scoping Report and which will be refined through the ongoing design development process.

2.1.1.5 The description of the Proposed Development presented in this chapter is based principally on the information published as part of the June/July 2026 Informal Consultation. To support the EIA scoping process, additional information has also

[1] Legislation UK. Regulation 10(3)(b) of the Infrastructure Planning (Environmental Impact Assessment) Regulations. 2017. Available at: The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (Accessed: 18/09/2026)

been incorporated where necessary to provide a sufficient understanding of the likely construction, operation, maintenance and decommissioning activities that may give rise to environmental effects. Given the current stage of project development and programme constraints associated with preparing this Scoping Report, this additional information reflects preliminary assumptions and general approaches currently envisaged for the Proposed Development and has not been developed having regard to feedback received through the Informal Consultation.

2.1.1.6 The design of the Proposed Development will continue to evolve following consideration of feedback received through ongoing stakeholder engagement, consultation activities and the EIA scoping process. As the design is developed further, the Proposed Development description, Parameter Plans and assessment assumptions will be refined as appropriate, although will remain within the Scoping Boundary assessed as part of the Scoping Report. The resulting design proposals will then be subject to further environmental assessment and formal consultation to inform the application for development consent and the Environmental Statement submitted with the DCO Application.

2.1.1.7 Where relevant, references are provided throughout this chapter to the Parameter Plans associated with specific components of the Proposed Development. **Table 2-1** identifies the relevant Parameter Plans.

2.1.1.8 The EIA will assess a design envelope represented by the Parameter Plans and associated parameter limits. The assessment methodologies described in the topic chapters will identify the assumptions adopted to ensure that likely significant effects are assessed on a robust and cautious worst case scenario basis.

2.1.1.9 Information provided in this chapter reflects the current understanding of the Proposed Development and has informed the proposed scope of the environmental assessments set out in Chapters 5 to 23 of this EIA Scoping Report.

Table 2-1: Parameter Plans and Relevant Sections of this Chapter

Figure Number	Parameter Name	Chapter Section
Figure 2-1	Green Infrastructure	Section 2.3.5
Figure 2-2	Utilities Infrastructure	Section 2.3.2 & 2.3.3 & 2.3.5 & 2.3.6 & 2.4.1
Figure 2-3	Flood Risk Mitigation	Section 2.3.4
Figure 2-4	Transport Mobility and Access	Section 2.3.3

Figure Number	Parameter Name	Chapter Section
Figure 2-5	Airport Operational Infrastructure	Section 2.3.2
Figure 2-6	Construction and Logistics	Section 2.4.1
Figure 2-7	Water Environment	Section 2.3.4 & 2.3.5

2.2 Overview of the Proposed Development

2.2.1 Description of the Proposed Development

2.2.1.1 The Proposed Development comprises the expansion of Heathrow Airport through the construction of a new 2,400 m long third runway, associated apron and taxiway infrastructure and new Terminal 6 buildings to the west of the current Terminal 5. The Proposed Development includes the development of a range of associated infrastructure including airfield and airport infrastructure, airport supporting facilities, surface access and public transport improvements, utilities, river engineering works, environmental mitigation and enhancement measures, construction compounds, support areas and access infrastructure, and all other works required to facilitate the expansion and operation of the airport. The Proposed Development will provide additional passenger, airline, and operational capacity, with an airport capacity increase of over 40 million passengers per annum (mppa), up to 260,000 air traffic movements (ATMs) and will be compatible with potential future rail access improvements serving Heathrow, including the Western Rail Link and Heathrow Southern Rail. The Proposed Development allows for the potential future increase of the 2,400 m long third runway to up to 3,500 m long, permission for which is not sought through this proposed application.

2.2.1.2 The Proposed Development will come forward to include:

- The construction of the relevant airfield infrastructure required to support new aircraft operations at the new third runway, inclusive of runway, taxiways, aprons, stands, remote stands and airside operational infrastructure.
- The provision of a new ‘Terminal 6’ and several satellite buildings to the west of the existing Heathrow Airport to support passenger processing, airline operations, commercial activities and airport operational requirements.
- The construction of relevant airport support buildings to support day-to-day airport operations, maintenance activities, security facilities, logistics and staff welfare.
- The provision of an Inter Terminal Plaza (ITP) comprising a multi-level transport interchange situated between the existing Terminal 5 and the proposed Terminal 6.

- The relevant modification to the existing highway network to facilitate passenger and operational traffic movements, maintain connectivity for surrounding communities and businesses, and provide access to proposed airport facilities and transport interchanges.
- The provision of new infrastructure including multi-storey parking linked to the ITP.
- The provision of new and improved active travel routes for employees.
- The reconfiguration, diversion, protection, replacement or installation of utilities and associated infrastructure, including strategic electricity infrastructure and other electricity, aviation fuel, water, wastewater, gas and telecommunications networks, and the establishment of new utility connections and supplies, as necessary to facilitate the Proposed Development.
- The proposed diversion, realignment and management of watercourse and floodplain areas impacted by the airport expansion.
- The provision of accessible green space comprising publicly accessible landscapes and recreational areas supporting recreation, wellbeing, biodiversity and environmental enhancement.
- The provision of airport supporting facilities and infrastructure.
- The proposed displacement of existing land uses, buildings and infrastructure affected by the Proposed Development. The assets may require relocation, reconfiguration, demolition, replacement or compensation to facilitate the delivery of the Proposed Development.
- The provision of temporary facilities required to support the construction of the Proposed Development, including Construction, Logistics, and Site Support (CLASS) Compound, construction logistics infrastructure, workforce access and transport and construction access.

2.3 Principal Components of the Proposed Development

2.3.1 Overview

2.3.1.1 The Proposed Development comprises a number of components for which development consent will be sought. To assist with the description of the Proposed Development, these components are grouped into the categories set out below, each representing a distinct functional element of the Heathrow Expansion project.

- Airport runways, Terminal Buildings and Airside Support Buildings
- Transport Mobility and Access
- Rivers and Flood Risk
- Green and Blue Infrastructure
- Airport Supporting Facilities, Airport Related Development and Displaced Uses

2.3.2 Airport Runways, Terminal Buildings and Airside Support Buildings

Runways, Taxiways, Aprons, Contact and Remote Stands

2.3.2.1 A new 2,400 m runway is to be provided to the northwest of the Heathrow Airport's current northern runway. The new runway will be located to the north of the existing A4 Colnbrook Bypass/Bath Road, oriented in an east-west alignment, sited between the M25 in the west and the M4 spur road in the east.

2.3.2.2 Associated new taxiways, aprons and aircraft stands will provide the core airfield infrastructure to support the new runway as well as providing integration and connection with the wider existing airfield. New taxiways will be provided alongside the new runway on the south side, with connections at the western end towards the new terminal area and existing northern runway taxiways.

2.3.2.3 The existing northern and southern taxiways will require amendments, including an integrated airfield taxiway loop, in order to accommodate the new runway and to provide sufficient room for safe manoeuvre of the largest commercial aircraft associated with the runways.

2.3.2.4 These works are anticipated to include:

- the construction of runway pavements;
- taxiway pavements;
- aircraft contact stands;
- aprons;
- runway and taxiway safety areas;
- airfield drainage and lighting systems;
- airfield signage and markings;
- and aircraft movement management systems.

Terminals and Satellite Buildings (T6A & T6B)

2.3.2.5 Terminal 6A (T6A) is the main terminal building to be constructed and will be connected to Terminal 6B (T6B), otherwise referred to as the Satellite Building, by means of a passenger skybridge and a series of tunnels for both passenger and operational facilities. It is proposed that T6B will be located to the west of the existing Terminal 5 (T5) building, providing passenger, airline and operational facilities to support the expanded airport, including processing, circulation, baggage, security, commercial, engineering and back-of-house functions.

2.3.2.6 T6A and T6B are expected to include facilities such as: arrivals and departures areas; security screening facilities and infrastructure; baggage handling systems; airline operational facilities; retail, food and beverage and other commercial facilities; and plant, equipment and building services infrastructure. Design associated with the configuration and internal arrangement of T6A and T6B facilities remains under development and is flexible to respond to detailed operational requirements, passenger demand, airline needs and construction phasing.

2.3.2.7 The T6A and T6B buildings will interface with runways, taxiways, aprons and aircraft stands, as well as landside access infrastructure, utility networks, airside operational infrastructure and airport support facilities.

Airside Support Buildings

2.3.2.8 Airside support buildings will comprise the facilities required to support the day-to-day functioning of the airport. These facilities will support airport operations, maintenance activities, security functions, logistics, staff welfare and operational resilience.

2.3.2.9 These buildings are expected to include operational control centres; logistics and storage buildings/air cargo; staff accommodation and welfare facilities; energy centre; and waste management infrastructure.

2.3.2.10 Airside support buildings will provide the facilities required for the operation of terminal buildings, airfield infrastructure, aircraft operations, utilities, security systems and airport operational services.

Airside Operational Infrastructure

2.3.2.11 Airside operational infrastructure comprises the systems, facilities and services required to support the safe, secure and efficient movement of aircraft and associated airport operations. The components comprise operational, emergency response, communications, fuel storage and utility infrastructure required to support airfield operations and maintain essential airport services. These components are largely located in and around the new terminal area and in an area to the south of the new runway.

2.3.2.12 This infrastructure will interface with runways, taxiways, aprons, terminals, support buildings, utilities and wider airport operational systems. It will also interact with the airport perimeter and the surrounding managed environment.

2.3.3 Transport Mobility and Access

Inter Terminal Plaza (ITP)

2.3.3.1 The key parameters and design considerations for the ITP reflect the draft HENPS requirement to facilitate making public transport the first choice for most passengers including the need to provide a multi-modal interchange serving both

T5 and T6, integrated with existing and potential future rail infrastructure, accommodating bus and coach operations, and supporting passengers, staff, servicing and emergency access.

2.3.3.2 The ITP will be located between the retained Terminal 5 (T5) and the proposed Terminal 6 (T6) and represents the gateway feature for all passengers using T6A and T6B. It will provide a multi-level transport interchange, improving public transport access to T5 while also providing rail, bus and coach access to T6.

2.3.3.3 As well as being the public transport hub, the ITP will include cycle parking, taxi and car drop-off provision, parking, servicing, and emergency access for both T5 and T6. It will also serve as the terminus for an automatic transit system, enabling passenger and staff transfers from the proposed remote Parkway locations. The ITP design will connect T5 with T6, with different levels in the ITP accommodating separate movement functions for departures, arrival, and onward travel.

2.3.3.4 The ITP will provide a multi-modal interchange serving passengers and staff using T5 and T6, with access to bus, coach, London Underground, Elizabeth Line and Heathrow Express rail services.

2.3.3.5 Access to the ITP will be provided from both the north and south, with tunnel connections beneath airside land uses linking into the remodelled external highway network.

Future-proofing for Rail

2.3.3.6 The ITP and T6 proposals include new below-ground infrastructure to safeguard for future delivery of rail schemes. The rail box will provide flexibility for such future rail connections, without prejudicing the delivery or operation of T6.

Public Transport (Bus and Coach) Infrastructure

2.3.3.7 The ITP will provide a passenger transport interchange for buses and coaches, supported by new services for employees and passengers to both terminal T5 and T6. Bus and coach access will connect with the local road network, with bus priority measures provided where appropriate, including along the remodelled A4 corridor and approaches to key junctions.

2.3.3.8 The purpose of the bus lanes and priority measures will be to improve the journey times and reliability of services, encouraging the attractiveness of services and improving the bus and coach offering alongside new service provision. The corridors for new highways provide some flexibility for the scope of bus lane provision. There may also be scope for some improvements for buses on existing highway corridors.

Active Travel

2.3.3.9 The Proposed Development will be supported by new and improved active travel routes. These will improve connections between the airport, surrounding

communities, employment areas and public transport nodes, supporting staff access and providing wider local connectivity benefits. Active travel investment will be informed by Local Cycling and Walking Infrastructure Plans (LCWIP) and will improve links between the airport, nearby residential areas, employment locations and public transport stops.

Highway Network

2.3.3.10 The Proposed Development will require alterations and improvements to the local highway network to serve the expanded airport, replace affected routes and maintain access for neighbouring communities, businesses and airport-related land uses.

2.3.3.11 New and remodelled highway corridors are proposed to provide for general traffic, buses, active travel, HGV access, access to displaced uses where existing corridors do not exist as well as utility corridors. These highway corridors will also provide opportunities for landscape integration, green infrastructure, active travel provision, bus priority and utility corridors, where compatible with highway safety, operational and land requirements.

2.3.3.12 The proposals include reprovision of the existing A3044 Stanwell Moor Road (moved to the west side of the M25), remodelling of M25 Junction 14 to provide the main M25 access to T5/T6, removal of existing M25 Junction 14a, a realigned A4 and Airport Way (A3113), new access to the ITP and Parkways from the north and south, and junction and route improvements to support airport access, public transport, active travel and local connectivity. The A4 improvements incorporate new road, bus, and cycle tunnels beneath the M25 to retain this strategic east-west corridor broadly on its current alignment, with relatively minor deviations.

2.3.3.13 Design development and testing will inform details of junctions. Speed limits for new highways will be considered further alongside any changes to existing speed limits, as well as new/replacement directional signage on all key access routes to reflect the new access arrangements.

2.3.3.14 The new highway proposals will need to connect to existing highways in the locality of Heathrow. There are no proposals to alter the mainline alignment of the M25 or M4 motorways. Other local routes such as the A30 may see improvements.

Parkways

2.3.3.15 The Proposed Development will replace existing parking with multi-level Parkways, catering for passengers, staff, disabled, drop-off, short-stay, long-stay and car hire parking, phased to reflect parking demand and mode share objectives. A Central Parkway is envisaged on the A4 corridor, with a Southern Parkway to the south accessed via Airport Way; both will connect to the ITP by Automated People Mover.

2.3.3.16 Both of the Parkways will be connected to the ITP by a track-based APM, routed beneath the airport aprons and providing frequent, short-distance transfer between the parking areas and terminals.

Electric Vehicle Charging

2.3.3.17 Electric vehicle charging provision will support the transition to zero-emission vehicles and respond to demand from passengers, staff, taxis, car hire, buses, coaches and HGVs. Charging infrastructure is proposed to be provided in dedicated areas, Parkways, staff parking or specialist facilities, with provision tailored to operational need rather than a fixed percentage across all parking spaces.

HGV Parking Area

2.3.3.18 The expanded airport will increase the potential for additional air cargo movements. In order to mitigate the potential for the associated additional HGV movements to cause local congestion, a new HGV holding facility (or facilities) will be provided to manage freight-related parking, call-forward operations, driver welfare and access to cargo facilities.

2.3.3.19 The facility will be sized by landside HGV demand forecasts, with flexibility for one or more suitable locations, potential electric charging provision and access to the strategic road network. This facility will have good access to the strategic road network and air freight facilities and will be provided at grade and have suitable access and circulation space for HGVs.

2.3.4 Rivers and Flood Risk

River Diversions

2.3.4.1 The Proposed Development will extend the airport footprint westwards into the Colne Valley, affecting the existing alignment of watercourses and areas of floodplain within the valley. The River Colne, Wraysbury River, Longford River and Duke of Northumberland's River will be diverted to the north of the proposed new runway, with current options combining flows into two corridors routed beneath the runway and reconnecting downstream of the airport works.

2.3.4.2 The Wraysbury River will connect back to its existing channel running beneath the M25 south of the existing Bath Road crossing, and the Colne, Longford and Duke of Northumberland Rivers will remain in diverted channels running parallel to the M25 until they cross beneath Airport Way before reconnecting to the existing channels.

2.3.4.3 Where possible, rivers will be in open channels, although some areas will need to be contained in structures and covered for short sections where they cross beneath the runways/taxiways, and other structures such as highways.

2.3.4.4 The final arrangement for watercourse diversions remains subject to ongoing design development, hydraulic modelling, environmental assessment and stakeholder engagement. Changes to road alignments, junction layouts and other infrastructure may influence the detailed alignment and form of the proposed watercourse diversions. No river diversions are proposed that would require a new crossing of the M25, beyond those watercourses that already pass beneath or across the motorway.

Drainage Infrastructure

2.3.4.5 The Proposed Development will extend the airport footprint into the Colne Valley, affecting existing watercourses and increasing the extent of hard surfacing. A Surface Water Drainage Strategy has been developed to ensure that the surface water runoff can be appropriately collected, attenuated, treated and discharged, to manage flood risk and protect the water environment during construction and operation. Sustainable Drainage principles have been followed in developing a suitable strategy and potential attenuation areas, using above-ground features where possible.

2.3.4.6 The strategy, where appropriate, will be coordinated with watercourse diversions, floodplain capacity and the green and blue infrastructure strategy.

Floodplain Compensation/Storage Areas

2.3.4.7 Where development encroaches into areas of existing floodplain, measures such as floodplain compensation and/or flood storage may be incorporated, where necessary and appropriate, to manage potential changes in flood risk. The design approach will seek to avoid or minimise increases in flood risk on-site and, where reasonably practicable, elsewhere. Potential compensation areas have been identified through high-level screening north and west of the airport and may include lowered ground levels, flood storage areas and associated environmental mitigation measures.

Flood Defence Infrastructure

2.3.4.8 The Proposed Development will extend the airport footprint into the Colne Valley, affecting existing watercourses and areas of floodplain storage. Flood defence infrastructure may be required so the development remains safe for its lifetime, taking account of climate change, and avoiding an increase to flood risk elsewhere. Any need for flood defence infrastructure, such as walls, bunds, control structures, flood storage and environmental mitigation areas, will be confirmed through hydraulic modelling and stakeholder engagement.

Flood Risk Mitigation

2.3.4.9 The Proposed Development is expected to extend into the Colne Valley. As such, flood risk mitigation will be required to demonstrate that the risk of flooding would not increase for the Proposed Development, or for surrounding areas off-Site,

accounting for climate change. The flood risk mitigation strategy will integrate river diversions, flood compensation, surface water drainage, safe access and egress, floor levels, crossings and temporary groundwater monitoring to demonstrate that the site is safe and does not increase flood risk elsewhere.

2.3.5 Green and Blue Infrastructure

2.3.5.1 An integrated design approach has been adopted for Green and Blue Infrastructure, seeking to maximise the potential for enhancement as part of the design process by combining functional opportunities with a best practice approach to design.

2.3.5.2 This encompasses:

- Surface Water Drainage and Sustainable Drainage Systems (SuDS)
- Visual Screening
- Landscape Integration with Blue Infrastructure and Cultural Heritage
- Nature Conservation and Biodiversity / BNG
- Amenity and Open Space including Auditory Amenity and Public Rights of Way

Surface Water Drainage

2.3.5.3 The surface water drainage infrastructure will manage runoff from the Proposed Development, reducing flood risk, protecting water quality and supporting sustainable drainage across the Proposed Development.

2.3.5.4 Elements may include SuDS features; surface water collection and drainage networks; water treatment and pollution control infrastructure; surface water pumping stations; surface water outfalls and discharge infrastructure, and Water reuse/rainwater harvesting systems.

2.3.5.5 Green infrastructure-integrated SuDS will form multifunctional green and blue infrastructure, helping to shape landform, planting, habitat creation, movement corridors and amenity space while supporting climate resilience and contributing positively to local character and visual integration.

2.3.5.6 Green infrastructure-integrated SuDS will comprise landscape-led surface water management features incorporated into open space, green corridors, planting areas, streetscapes, edges and public realm. These features will be designed as part of the landscape composition rather than as standalone drainage infrastructure, using landform, vegetation, wet and dry basins, linear channels and planted areas to manage water while reinforcing landscape structure, ecological value, sense of place and user experience.

2.3.5.7 The exact location, extent, form, grading, planting character and detailed design of green infrastructure-integrated SuDS features may vary to allow them to be coordinated with landscape structure, open space provision, habitat creation,

visual screening, public access, maintenance requirements and future design development. Proposed options may include:

- Soft landscape planted drainage corridors;
- Rain gardens, bioretention planting and filter strips integrated into public realm or open space;
- Wet and dry attenuation basins shaped as landscape features rather than purely engineered assets;
- Ponds, wetlands and seasonal water features that contribute to habitat diversity and landscape character;
- Permeable surfaces within paths, hard standing areas, parking or maintenance areas where compatible with operational requirements;
- Green roofs, podium landscapes or terraced planting areas where they support wider landscape and drainage objectives.

2.3.5.8 Green Infrastructure integrated SuDS will interface with the wider surface water drainage strategy, landscape mitigation, biodiversity net gain, accessible green space, public rights of way and public realm proposals. Their design will help drainage infrastructure perform as part of the wider landscape framework, supporting green and blue corridors, habitat connectivity, amenity value, visual softening and resilience to climate change.

2.3.5.9 The location, alignment, extent, capacity and detailed design of the surface water drainage infrastructure will reflect a variety of design concepts and will be integrated into the Proposed Development.

2.3.5.10 The drainage network will service airport infrastructure, highways and utilities, but will also be used to create landscape areas and green infrastructure, with features integrated with ecological mitigation, flood management and accessible green space where possible and appropriate.

Visual Screening

2.3.5.11 Landscape visual screening will be provided to reduce, filter or soften views of the Proposed Development, associated infrastructure and construction or operational activity from sensitive receptors, public routes, open spaces and surrounding communities. From a landscape perspective, screening has been incorporated as an integrated part of the wider green infrastructure strategy, contributing to landscape character, visual amenity, habitat connectivity and placemaking rather than functioning solely as a visual barrier.

2.3.5.12 Landscape visual screening will comprise landform, planting, woodland, hedgerows, buffer landscapes and other landscape elements arranged to manage views, reduce visual prominence and improve the setting of the Proposed Development. Screening will be developed in response to key viewpoints, receptor sensitivity, landscape character, operational requirements and long-term management objectives, with planting designed to establish over time and provide layered, seasonal and contextually appropriate visual mitigation.

2.3.5.13 Landscape visual screening will interface with landscape integration, cultural heritage setting, biodiversity enhancement, SuDS, public rights of way, accessible green space, highways, lighting and construction phasing proposals. Its design will support a coordinated landscape framework that manages visual effects while contributing to habitat creation, route experience, edge treatment, local character and long-term green infrastructure resilience. Proposed options may include:

- Woodland, shelterbelt and structural tree planting;
- Native hedgerows, scrub belts and edge planting;
- Earth bunds, landform modelling and planted embankments;
- Layered planting mixes combining trees, understorey, shrubs and groundcover;
- Landscape buffers around infrastructure, edges, routes and operational areas;
- Integration with SuDS, habitat creation, open space and access corridors where appropriate;
- Temporary or early-stage planting measures where phased mitigation is required.

Landscape Integration with Cultural Heritage

2.3.5.14 Landscape integration and cultural heritage are required to ensure the Proposed Development responds sensitively to its surrounding landscape, townscape and historic environment context. From a landscape perspective, this component should help embed the new infrastructure within its setting, manage change to local character, protect or enhance the appreciation of heritage assets where practicable, and support a coherent green infrastructure framework that strengthens sense of place.

2.3.5.15 Landscape integration with cultural heritage will comprise the coordinated use of landscape structure, landform, planting, open space, views, routes and edge treatments to seek to reduce adverse effects on landscape character and heritage setting. The approach will be informed by existing landscape patterns, settlement edges, historic routes, field boundaries, watercourses, vegetation structure, key views and heritage sensitivities, with the aim of creating a contextually responsive landscape that supports mitigation, legibility and long-term environmental quality.

2.3.5.16 Landscape integration and cultural heritage will interface with visual screening, ecological mitigation, biodiversity net gain, accessible green space, public rights of way, SuDS, lighting, highways, construction phasing and operational infrastructure. Its design will support a coordinated landscape framework that helps embed the Proposed Development within its wider context while managing effects on character, views, setting, legibility and long-term environmental resilience. Proposed options may include:

- Landscape structure planting, woodland, hedgerow and tree belt reinforcement;
- Landform modelling, earthworks integration and graded transitions between development and surrounding landscapes;

- Retention, reinstatement or interpretation of historic landscape patterns, routes, boundaries or field structures where appropriate;
- View corridors, framed views, filtered views and visual relationships with heritage assets or valued landscape features;
- Sensitive edge treatments, buffers and transition landscapes around infrastructure, communities and heritage settings;
- Materials, planting character and public realm treatments that respond to local landscape and heritage context;
- Integration with accessible routes, open space, SuDS, ecological mitigation and biodiversity enhancement areas.

Nature Conservation, Biodiversity and BNG

2.3.5.17 Nature conservation, biodiversity and Biodiversity Net Gain (BNG) are required to protect, enhance and create habitats as part of a connected green and blue infrastructure network. From a landscape perspective, this component of the Proposed Development seeks to ensure that ecological mitigation and enhancement are embedded within the wider landscape framework, supporting habitat connectivity, species movement, landscape character, climate resilience and long-term environmental value.

2.3.5.18 The Proposed Development will extend the airport footprint westwards into the Colne Valley, with the proposed new runway crossing the Colne and Wraysbury valleys and Harmondsworth Moor.

2.3.5.19 The Proposed Development includes works within areas currently supporting existing habitats and biodiversity features, including land subject to nature conservation designations. The extent of any direct effects on designated sites, priority habitats and protected species will be determined through the ongoing design process and assessed as part of the EIA.

2.3.5.20 The proposed landscape strategy and masterplan seeks to achieve nature conservation and biodiversity / BNG through habitat retention, creation, restoration and enhancement measures delivered through the landscape design. The design approach will be informed by ecological assessment, BNG requirements and landscape opportunities, using planting, landform, water, soils and management regimes to create multifunctional habitats that contribute to nature recovery while forming an integrated part of the Proposed Development's landscape character and mitigation strategy.

2.3.5.21 Nature conservation and biodiversity / BNG will interface with landscape integration, visual screening, SuDS, blue infrastructure, accessible green space, public rights of way, lighting, construction phasing and long-term landscape management. Its design will support a multifunctional green and blue infrastructure network that delivers ecological mitigation and measurable biodiversity value while contributing to landscape character, climate resilience, amenity and environmental quality. Elements may include:

- Habitat retention, protection and enhancement areas;
- Species-rich grassland, meadow and rough grassland creation;
- Woodland, scrub, hedgerow, tree belt and edge habitat planting;
- Wetland, pond, ditch, riparian and marginal habitat associated with blue infrastructure and SuDS;
- Habitat corridors, stepping stones and ecological links through the wider landscape framework;
- BNG areas delivered on-site and, where required, through strategic off-site measures;
- Long-term management and maintenance measures to support habitat establishment and target condition.

Amenity and Open Space

2.3.5.22 Amenity and open space are required to provide accessible, attractive and functional outdoor environments that support recreation, health and wellbeing, movement, community use and environmental mitigation. From a landscape perspective, this component has led to proposed open spaces being planned as part of a connected green and blue infrastructure network encompassing wide western and northern corridors around the Proposed Development, as well extended corridors towards the north and along the southern airport boundary along river channel routes. These contribute to landscape character, visual quality, biodiversity, climate resilience and a positive user experience.

2.3.5.23 This proposed amenity and open space will comprise publicly accessible and semi-public landscape areas that provide opportunities for informal recreation, rest, movement, social interaction and landscape enjoyment. These spaces will be shaped by landform, planting, routes, seating, edges, views, habitat areas and water features, with the aim of creating multifunctional landscapes that mitigate open space impacts while improving environmental quality and local connectivity.

2.3.5.24 Amenity and open space will interface with public rights of way, active travel routes, visual screening, landscape integration, biodiversity net gain, SuDS, blue infrastructure, lighting, community facilities, construction phasing and long-term landscape management. Its design will support a multifunctional green and blue infrastructure network that improves access to outdoor space, mitigates open space impacts and contributes to landscape character, wellbeing, biodiversity and climate resilience.

Public Rights of Way and Access Networks

2.3.5.25 The Proposed Development includes new airport buildings and runway infrastructure that will sever existing rights of way and public access routes currently established through the Harmondsworth Moor to Stanwell Moor corridor to the east of the M25. To maintain and enhance connectivity for pedestrians, cyclists and other active travel users within and around the Proposed Development, it is proposed to provide new safe and accessible movement routes between communities, through public spaces and transport infrastructure.

2.3.5.26 New active travel infrastructure is proposed to be delivered along key transport corridors aligning with LCWIP proposals, where possible, to cater for both commuting and recreation uses, as well as new routes through areas developed as part of the landscape masterplan to the north and west of the proposed airport boundary.

2.3.5.27 Where connections are severed, replacement links will be provided along the closest practicable pathway to reconnect with the wider network while new recreational routes will be established where appropriate. The access network will interface with highways, transport infrastructure, accessible green spaces, landscape corridors, community facilities and other elements of the green and blue infrastructure network.

2.3.6 Airport Supporting Facilities, Airport Related Development and Displaced Uses

Airport Supporting Facilities and Airport Related Development

2.3.6.1 Airport Supporting Facilities (ASF) and Airport Related Development (ARD) comprise facilities and infrastructure which support the operation of Heathrow Airport and have a direct functional relationship with airport activities. These uses may be located within or outside the operational airport boundary and may be required to support airport operations, passenger services, freight activities, operational continuity and the delivery of the expanded airport. Subject to ongoing design development, ASF and ARD may include uses such as cargo and freight facilities, aircraft maintenance and airline support facilities, hotels, offices, industrial and warehousing uses, and associated operational infrastructure.

Displaced Uses

2.3.6.2 The Proposed Development may result in the displacement of certain existing land uses, buildings and infrastructure. At this stage, known displaced uses are anticipated to include a number of major facilities and infrastructure assets located within areas required for the Proposed Development. These may include:

- Harmondsworth and Colnbrook Immigration Removal Centres;
- Lakeside Energy from Waste Facility;
- T5 Multi-Storey Car Park; and
- Other operational, commercial, utility and infrastructure assets identified through the ongoing design process.

2.3.6.3 The specific approach to individual displaced uses, including whether replacement facilities form part of the Proposed Development or are delivered separately, remains under consideration and will be confirmed through the ongoing design process.

2.3.6.4 The approach to individual displaced uses is currently being developed. Where appropriate, affected facilities may be reprovided as part of the Proposed

Development or accommodated within areas identified to provide flexibility for airport-supporting and airport-related uses. The final approach to reprovision and replacement will be confirmed through the ongoing design process.

2.4 Development Phases

2.4.1 Construction

2.4.1.1 Construction of the Proposed Development is anticipated to be undertaken over a period of approximately six years, with the delivery of different components occurring in separate phases. The duration, sequencing and timing of individual phases remain under development and will be informed by design evolution, operational requirements and demand. Subject to the DCO consenting process, construction is anticipated to commence in the early 2030s. The construction programme and phasing strategy will be refined and applied to the assessments undertaken at the ES stage.

2.4.1.2 As a minimum, the ES will contain the following and will assess any associated likely significant effects during the construction phase of the Proposed Development:

- Location, size and indicative layout of temporary construction compounds and access tracks.
- The anticipated number of construction vehicle movements, including the requirements of any hazardous or large (abnormal) loads, which is further described and will be assessed the traffic and access chapter of the ES.
- An Outline Construction Traffic Management Plan ('OCTMP') which will set out the measures for safe access and traffic management to avoid or mitigate impact on the local road network. The OCTMP will be informed by the assessment of likely significant effects on traffic and access.
- An Outline Construction Environmental Management Plan ('OCEMP') which will outline the environmental management matters beyond construction traffic (e.g. ecology, arboriculture, drainage, noise, lighting, waste management etc).
- An Outline Construction Workforce Travel Plan ('OCWTP') which will set out the measures to facilitate efficient and sustainable travel options for the construction workforce during the development.
- The construction working days and hours and how these will be secured.
- External lighting during the Proposed Development's construction and decommissioning phases, including working areas and construction compounds.
- The expected nature and quantity of natural resources to be used in construction, including the predicted volume and source.

2.4.1.3 In addition to permanent land use requirements, temporary land take will be required to support construction and logistics activities throughout the construction period.

2.4.1.4 The Proposed Development includes the potential excavation and removal of areas of historic and licensed landfill together with the remediation of contaminated land where required. Given the presence of historic waste deposits and potential contamination sources within the Scoping Boundary, a comprehensive site-wide remediation strategy will be developed to manage risks.

Construction Logistics

2.4.1.5 The final form, scale, location and operational arrangements of individual construction logistics components will continue to evolve through detailed design, construction planning and stakeholder engagement. Appropriate flexibility is kept within the design parameters to provide an overall logistics strategy at this stage.

2.4.1.6 The ES will consider the following and will assess any associated likely significant effects during the construction phase of the Proposed Development:

- Temporary Rail Siding;
- Construction Compounds and Access;
- Logistics, Freight and Material Storage Areas;
- Construction Consolidation Centres;
- Construction Laydown Areas;
- Construction Traffic Management and Haulage Routes;
- Plant and Equipment Operating Areas;
- Construction Waste and Recycling Facilities (enabling and construction of waste processing); and
- Utility Supplies and Disposal.

2.4.2 Operation

2.4.2.1 The Proposed Development is anticipated to form a long-term part of Heathrow Airport's infrastructure. The various elements are expected to remain in place for the foreseeable future and would be subject to routine inspection, maintenance, refurbishment, renewal, replacement or upgrade, as required, to support ongoing airport operations.

2.4.2.2 The Proposed Development will provide additional passenger, airline, and operational capacity, with an airport capacity increase of over 40 million passengers per annum (mppa).

2.4.2.3 As is currently the case, Heathrow Airport operates continuously to support airport and related activities. The Proposed Development would support the ongoing operation of the airport, with the specific operational characteristics and hours of use of individual elements to be determined in accordance with applicable operational requirements, controls and regulatory frameworks.

2.4.2.4 For the purposes of the assessment, it is assumed that airport operations would continue to be subject to any applicable noise controls, restrictions and regulatory requirements in force at the time of operation of the Proposed Development.

2.4.3 Decommissioning

2.4.3.1 The Proposed Development is anticipated to form a permanent part of Heathrow Airport's infrastructure and operation. Accordingly, a separate project-wide decommissioning phase is not currently anticipated for elements of the Proposed Development.

2.4.3.2 Notwithstanding this, the design life of individual components will continue to be refined as the Proposed Development evolves. The relevance of decommissioning activities will therefore be considered within each technical assessment. Where decommissioning effects are considered reasonably foreseeable and capable of giving rise to likely significant environmental effects, they will be assessed within the relevant topic chapter. This may include circumstances where specific elements are identified as having a finite design life and may require removal, replacement or decommissioning during the operational lifetime of the Proposed Development.

2.4.3.3 Where decommissioning effects are not considered reasonably foreseeable, or where such effects would be no greater than those arising during construction and have been adequately addressed through the construction assessment, they may be scoped out with appropriate justification. Any future airport decommissioning would likely require its own planning consent and a separate assessment.

Environmental Impact Assessment Scoping Report

Chapter 3

Description of the Existing Site and its Surroundings

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Figure 3-1: Existing Operational Area

Figure 3-2: Combined ZoI Plan

Figure 3-3: Environmental Constraints

3 Description of the Site and its Surroundings

3.1 Overview

3.1.1 Purpose of Chapter

3.1.1.1 This Chapter provides an overview of the baseline environmental conditions within the Scoping Boundary (**Figure 2-1**) and surrounding area of the Proposed Development. A summary is provided for each technical chapter regarding the technical baseline. The Proposed Development is described in detail within **Chapter 2: The Proposed Development**.

3.1.2 Scoping Boundary Purpose

3.1.2.1 The Scoping Boundary has been defined to encompass the land that may be required for the construction, operation and where relevant, environmental mitigation associated with the Proposed Development. The Scoping Boundary also includes land required to accommodate design flexibility during the ongoing development of the project and to facilitate the identification of potential environmental effects during the EIA scoping process.

3.1.2.2 The Scoping Boundary should not be interpreted as the extent of land for which development consent will ultimately be sought. As the design of the Proposed Development evolves, the Order Limits will be refined for the DCO application.

3.1.3 Site Location

3.1.3.1 The Scoping Boundary encompasses an area of around 2,849.4 ha and is located approximately 15 miles (24 km) west of Central London. The Scoping Boundary includes land within and surrounding Heathrow Airport and extends across parts of west London, north Surrey, east Berkshire and south Buckinghamshire. The area is centred on Heathrow Airport and the Lower Colne Valley, extending across a diverse environment comprising urban areas, transport infrastructure, open countryside, river corridors, reservoirs, areas of former mineral extraction and land designated for environmental protection.

3.2 Administrative Context

3.2.1.1 The Site extends across the administrative areas of the following local authorities:

- London Borough of Hillingdon;
- London Borough of Hounslow;
- Spelthorne Borough Council;
- London Borough of Richmond upon Thames;
- Royal Borough of Windsor and Maidenhead;

- Slough Borough Council;
- Runnymede Borough Council;
- London Borough of Ealing;
- Buckinghamshire Council;
- Surrey County Council; and
- Greater London Authority.

3.2.1.2 **Figure 1-1**, displays the Local Authority Boundaries within whose administrative boundaries the Scoping Boundary falls.

3.3 Physical Setting

3.3.1 Heathrow Airport

3.3.1.1 The existing operational area of Heathrow Airport, which can be seen within **Figure 3-1** forms the dominant land use within the eastern part of the Scoping Boundary and represents one of the UK's principal transport hubs, supported by extensive aviation, transport and commercial infrastructure.

3.4 Scoping Boundary and Surroundings

3.4.1.1 The Scoping Boundary encompasses portions of the existing Airport at Heathrow and its associated infrastructure, including;

- the existing north runway and associated taxiway system;
- parts of the wider operational airport estate, including terminal facilities, operational support infrastructure and surface access arrangements;
- existing car hire facilities associated with Heathrow Airport;
- existing airport-related car parking facilities;
- existing airport-related hotels;
- the existing British Airways headquarters located west of Harmondsworth;
- the existing Heathrow Airport Fire Station and associated operational facilities; and
- two existing Immigration Removal Centres (Harmondsworth Immigration Removal Centre and Colnbrook Immigration Removal Centre) located north-west of Heathrow Airport.

3.4.2 Land Uses

3.4.2.1 The Scoping Boundary comprises a diverse mix of land uses and environmental receptors. These include parts of the existing operational area of Heathrow Airport (as identified in the preceding section), residential communities, commercial and industrial development, strategic transport infrastructure, agricultural land, areas of open countryside and greenspace, extensive river and watercourse networks, active and former mineral workings, historic and permitted landfill sites, waste management facilities and land designated for nature conservation.

3.4.2.2 The Scoping Boundary is centered on the Lower Colne Valley and comprises a low-lying landscape characterised by a network of rivers, streams, reservoirs, former gravel extraction areas and associated floodplain habitats. The area contains a mixture of heavily urbanised land associated with Heathrow Airport and surrounding settlements, together with extensive areas of open land, waterbodies and infrastructure corridors.

3.4.3 Settlements

3.4.3.1 Residential areas included within the Scoping Boundary either partially or in full, from west to east include;

- Brands Hill, located south of the Colnbrook Bypass, west of the M25;
- Colnbrook, located west of the M25, east of Brands Hill;
- Poyle, located west of the M25, east of Colnbrook;
- Stanwell Moor, located south of Airport Way, east of the M25;
- Longford village, located east of the M25, south of the Colnbrook Bypass;
- Harmondsworth village, located north of Bath Road and South of the M4;
- Stanwell village, located south of the Southern Perimeter Road;
- Sipson village, located west of the M4 Spur;
- Harlington, located north of Bath Road, south of the M4 and east of the M4 Spur;
- Hatton, located south of Great South-West Road; and
- Cranford, located east of the existing Heathrow Airport area.

3.4.4 Strategic Transport Network

3.4.4.1 The Scoping Boundary contains extensive airport-related transport infrastructure, including parts of Heathrow Airport's internal road network, airport perimeter roads, terminal access arrangements, public transport interchanges and rail infrastructure associated with Heathrow Airport. The area is also influenced by proposals for future rail improvements, including Western Rail and Southern Rail access schemes.

3.4.4.2 Key Strategic Transport features located within the Scoping Boundary include:

- The M4 motorway, including junctions 3, 4, 4B and 5;
- The M25 motorway, including junctions 13, 14, 14a and 15;
- The A4 (Colnbrook bypass), extending from the M4 junction 5 to Hounslow;
- The A30 (Staines Bypass), extending from the M25 junction 13 to Hounslow; and
- The Heathrow Airport Perimeter Road.

3.4.5 Rivers and Reservoirs

3.4.5.1 The Scoping Boundary encompasses an extensive network of rivers, watercourses, reservoirs and artificial water bodies associated with the River Thames, River Colne and River Crane catchments. Principal watercourses include the River Colne, Wraysbury River, Colne Brook, Horton Brook, Longford River, Duke of Northumberland's River and River Crane, together with numerous

associated tributaries, drainage channels and water management features. These assets form part of a complex and interconnected water environment that provides important functions relating to water supply, flood risk management, drainage, biodiversity and recreation.

3.4.5.2 The Scoping Boundary also includes or lies adjacent to several strategically important reservoirs and water bodies, including the Queen Mother Reservoir, Wraysbury Reservoir, King George VI Reservoir and Staines Reservoirs. These reservoirs form part of Thames Water's public water supply network and are supplied through abstractions from the River Thames.

3.4.6 Open Space and Biodiversity

3.4.6.1 The Scoping Boundary encompasses extensive areas of open space and green infrastructure, including land within the Colne Valley Regional Park, Harmondsworth Moor, Staines Moor and open space associated with the Queen Mother Reservoir, Wraysbury Reservoir, King George VI Reservoir and Staines Reservoirs. These areas provide important recreational, landscape and environmental functions within the wider Heathrow and Colne Valley area.

3.4.6.2 The Scoping Boundary also contains, or lies in close proximity to, a range of internationally, nationally and locally designated nature conservation sites together with ecologically important rivers, reservoirs, lakes, wetlands, grasslands, woodland and other semi-natural habitats. These features support a diverse range of species and contribute to the ecological importance of the wider Colne Valley and South West London Waterbodies landscape.

3.4.7 Landfills and Minerals Workings

3.4.7.1 The Scoping Boundary encompasses extensive areas of former and active mineral workings associated with the extraction of sand and gravel deposits within the Thames Valley and Colne Valley. The landscape has been significantly influenced by historic mineral extraction, with many former workings subsequently restored to a range of uses including reservoirs, lakes, nature conservation areas, agriculture, open space and landfill.

3.4.7.2 The Scoping Boundary also contains numerous historic and permitted landfill sites, including areas of engineered landfill associated with former mineral workings and restoration activities. These features represent an important component of the existing environment and have influenced the current pattern of land use, hydrology, ecology and ground conditions across the wider area.

3.4.8 Commercial and Industrial Uses

3.4.8.1 The Scoping Boundary includes a wide range of commercial, industrial and operational land uses, including airport-related facilities, logistics and distribution centres, industrial estates, waste management facilities, aggregate and concrete processing operations, rail-linked freight infrastructure, utilities infrastructure,

Energy from Waste (EfW), hotels and other supporting services associated with Heathrow Airport and the surrounding area. These uses form an important component of the existing economic and operational environment.

3.4.8.2 The environmental context of the Proposed Development is covered in detail within **Section X.6: Baseline Conditions** of each technical chapter (**Chapters 5** to **23**) and summarised within the following text.

3.5 Air Quality and Odour

3.5.1.1 Baseline Air Quality and Odour conditions at and in the vicinity of the Proposed Development are expected to be influenced by:

- Existing airport operations at Heathrow Airport;
- Major strategic road network running throughout the Scoping Boundary, including the M25, M4 and A30; and
- The existing urban and industrial context of the Proposed Development.

3.5.1.2 The National Atmospheric Emissions Inventory (NAEI) summarises the greatest emission groups being for PM_{10}, $PM_{2.5}$ and NO_x within the Scoping Boundary as: industrial processes, road transport, other transport and domestic and commercial combustion.

3.5.1.3 The Scoping Boundary intersects the following Air Quality Management Areas (AQMA)[1].

- Hillingdon AQMA2, designated in 2003 for exceeding the Annual Mean of Nitrogen Dioxide;
- Spelthorne AQMA3, designated in 2003 (amended in 2024) for exceeding the Annual Mean of Nitrogen Dioxide;
- Hounslow AQMA4, designated in 2003 for exceeding the Annual Mean of Nitrogen Dioxide;
- South Bucks AQMA No.25, designated in 2018 for exceeding the Annual Mean of Nitrogen Dioxide;
- M25 AQMA6, declared in 2001 (amended in 2008 and 2015) for exceeding the Annual Mean of Nitrogen Dioxide and 24-hour and annual mean of particulate

[1] Department for Food and Rural Affairs. UK AIR, AQMAs Interactive Map. Available at: AQMAs interactive map (accessed on: 14/08/2026).
[2] Department for Food and Rural Affairs. AQMA Details, Hillingdon AQMA. Available at: AQMA Details - DEFRA UK Air - GOV.UK (accessed on: 14/08/2026).
[3] Department for Food and Rural Affairs. AQMA Details, Spelthorne AQMA. Available at: AQMA Details - DEFRA UK Air - GOV.UK (accessed on: 14/08/2026).
[4] Department for Food and Rural Affairs. AQMA Details, Hounslow AQMA. Available at: AQMA Details - DEFRA UK Air - GOV.UK (accessed on: 14/08/2026).
[5] Department for Food and Rural Affairs. AQMA Details, South Bucks AQMA No.2. Available at: AQMA Details - DEFRA UK Air - GOV.UK (accessed on: 14/08/2026).
[6] Department for Food and Rural Affairs. AQMA Details, M25 AQMA. Available at: (accessed on: AQMA Details - DEFRA UK Air - GOV.UK 14/08/2026).

matter (amended in 2015 to remove the declaration for 24-hour and annual mean of particulate matter);
- Ealing AQMA7, designated in 2000 for exceeding the Annual Mean of Nitrogen Dioxide and 24-hour mean of particulate matter.
- Slough AQMA No.18, declared in 2005 for exceeding the Annual Mean of Nitrogen Dioxide;
- Richmond AQMA9, designated in 2000 for exceeding the Annual Mean of Nitrogen Dioxide and 24-hour mean of particulate matter.

3.5.1.4 The AQMA listings identify the key source of poor air quality relating to the pollutants declared and provides the following categories for the AQMAs that cover the Scoping Boundary:
- Road Transport Unspecified
- Mixture of Road Types
- Highways Agency Road.

3.5.1.5 The sources identified relate to road transport, suggesting this is the predominant source of pollutants for the AQMAs intersecting the Scoping Boundary.

3.5.1.6 Air Quality Focus Areas (AQFA), identified as exceeding the annual mean NO2 limit values have been identified within the Scoping Boundary for the following LPAs:
- London Borough of Hillingdon (AQFA; 80, 81, 82, 85 and 86); and
- London Borough of Hounslow (AQFA; 89, 90 and 91).

3.5.1.7 Automatic air quality monitoring is undertaken through Defra's Automatic Urban and Rural Network and locally managed networks within the Scoping Boundary and wider study area to capture the current air quality conditions. The site type listed for these monitoring locations includes: airport, urban background, roadside, industrial and other. **Chapter 5: Air Quality and Odour** provides further details surrounding the locations and the pollutants monitored by automatic air quality monitoring.

3.5.1.8 Existing Odour generating activities located within the scoping boundary includes:
- Movement of aircraft and other vehicles;
- Wastewater treatment;
- Waste storage and recycling; and
- Food preparation.

3.5.1.9 The baseline conditions for Air Quality and Odour are further discussed within **Chapter 5: Air Quality and Odour**.

[7] Department for Food and Rural Affairs. AQMA Details, Ealing AQMA. Available at: AQMA Details - DEFRA UK Air - GOV.UK (accessed on: 14/08/2026).
[8] Department for Food and Rural Affairs. AQMA Details, Slough AQMA No.1. Available at: AQMA Details - DEFRA UK Air - GOV.UK (accessed on: 14/08/2026).
[9] Department for Food and Rural Affairs. AQMA Details, Richmond AQMA. Available at: AQMA Details - DEFRA UK Air - GOV.UK (accessed on: 14/08/2026).

3.6 Biodiversity

3.6.1.1 There are 10 European designated sites, located within 10 km of the Scoping Boundary, including:

- South West London Waterbodies – Ramsar Site and Special protection Area (SPA);
- Windsor Forest and Great Park – Special Areas of Conservation (SAC);
- Richmond Park – SAC;
- Thursley, Ash, Pirbright and Chobham – SAC
- Thames Basin Heaths– SPA;
- Burnham beeches – SAC;
- Wimbledon Common – SAC;
- Chilterns beechwoods – SAC; and
- Mole Gap to Reigate Escarpment – SAC.

3.6.1.2 National and Local Designations located within 2 km of the Scoping Boundary include:

- Sites of Special Scientific Interest (SSSI):
  - Staines Moor;
  - Wraysbury and Hythe End Gravel Pits;
  - Wraysbury No. 1 Gravel Pit;
  - Wraysbury Reservoir;
  - Langham Pond;
  - Thorpe Hay Meadow;
  - Bushy Park and Home Park;
  - Kempton Park Reservoirs;
  - Kingcup Meadows and Oldhouse Wood; and
  - Windsor Forest and Great Park.
- Local Nature Reserves (LNR):
  - Arthur Jacob Nature Reserve; Bedfont Lakes; Cranebank and Hounslow Heath.
- Country parks:
  - Thorney Park; Bedfont Lakes; Cranford Countryside Park; Minet; Lake Farm and Stockley.
- There are approximately 51 Ancient Woodland parcels within 2 km of the Scoping Boundary.

3.6.1.3 The baseline conditions for Biodiversity are further discussed within **Chapter 6: Biodiversity**, including discussion of the baseline habitats and species.

3.7 Ornithology

3.7.1.1 Statutory sites designated for ornithological features within 10 km of the Scoping Boundary include:

- South West London Waterbodies – SPA;
- Staines Moor – SSSI;
- Wraysbury Reservoir – SSSI;
- Wraysbury and Hythe End Gravel Pits – SSSI;
- Wraysbury No 1. Gravel Pit – SSSI;
- Langham Pond – SSSI;
- Thorpe Park No 1. Gravel Pit – SSSI;
- Windsor Forest and Great Park – SSSI;
- Kempton Park Reservoirs – SSSI;
- Syon Park – SSSI;
- Fray's Farm Meadows – SSSI;
- Black Park – SSSI;
- Mid Colne Valley – SSSI; and
- Thames Basin Heaths – SPA.

3.7.1.2 The baseline conditions for Ornithology are further discussed within **Chapter 7: Ornithology**, including details surrounding previous baseline surveys.

3.8 Greenhouse Gases

3.8.1.1 The Climate Change Act (CCA) 2008[10], is a legally binding framework to reduce greenhouse gas (GHG) emissions, which sets long-term targets for GHG reduction. The CCA requires the government to set five-yearly carbon budgets, which caps the total GHG emissions to ensure the UK meets its emissions reductions commitments.

3.8.1.2 The setting of the Proposed Development is predominantly urban, with potential GHG emission sources identified including:

- Heathrow Airport – operating two runways;
- Former Landfills;
- Urban settlements such as residential buildings and an EfW plant- assumed to use a combination of gas and electric utilities for heating and power.

3.8.1.3 GHG emissions associated with the existing operation of a Heathrow as a two-runway airport include;

- Aircrafts – emissions associated with take-off cruise, aircrafts in the landing and take-off cycle and de-icing;
- Electricity use – emissions associated with grid electricity consumption (including downstream leased assets);

[10] UK Government. Climate Change Act 2008 (2050 Target Amendment) Order 2019. Available at: Climate Change Act 2008 (accessed on: 28/08/2026).

- Ground travel – emissions associated with staff and passenger ground travel to and from the airport;
- Site vehicles and equipment – emissions associated with operational vehicles and equipment;
- Site utilities – emissions associated with water supply, wastewater, waste and fuel consumption utilities;
- Goods and services – emissions associated with purchased goods and services and capital goods;
- Other – emissions associated with other sources such as third-party refrigerants, losses associated with refrigerant, Heathrow business-related travel, liquefied petroleum gas (LPG) for fire training, de-icer, non-road construction vehicles.

3.8.1.4 The baseline conditions for Greenhouse Gases are further discussed within **Chapter 8: Greenhouse Gases**.

3.9 Climate Change

3.9.1.1 Climate trends observed over the UK include:

- The UK's climate has warmed at approximately 0.25 ºC per decade since the 1980s;
- All the UK's top ten warmest years (from 1984), have occurred since 2000; the most recent four years (2022 – 2025) are all in the top five warmest years;
- UK winters (October to March) for 2016–2025 has been 3% wetter than 1991–2020, and 13% wetter than 1961–1990; and
- The sea level around the UK has risen by about 20.1 cm (since 1901), with two-thirds of this rise happening over the last three decades.

3.9.1.2 Climate observations across the region include:

- Heathrow Meteorological Stations:
  - Average annual temperature is higher than the UK average (14.46 °C, compared to 11.87 °C);
  - Average total annual rainfall is lower than the UK average (596.58 mm/yr, compared to 1084.06 mm/yr);
  - The wettest month on average is October for Heathrow, compared to December for the UK. The driest month being February for Heathrow and April for the UK.
- Greater London:
  - The number of days over 30°C and nights over 18°C has more than quadrupled between 2016 -2025, compared to 1961-1990.
- London and South East England has experienced the following severe weather warnings:
  - Red warning of extreme heat issued in June 2026 and July 2022;
  - Red warning of wind issued in February 2022 during Storm Eunice;

- Red warning of snow issued in January 2013; and
- Amber warnings for extreme heat issued in June 2026 and July 2022.

3.9.1.3 The baseline conditions for Climate Change are further discussed within **Chapter 9: Climate Change**.

3.10 Community

3.10.1.1 The following community areas have been identified, based on their overlap with the Scoping Boundary, where this has the potential to create significant effects by virtue of the works that may occur within the relevant locations:

- West Drayton;
- Hayes;
- Longford;
- Harmondsworth;
- Sipson
- Cranford Cross
- Heston, Hounslow (Central and South)
- Feltham North
- Bedfont
- Stanwell
- Stanwell Moor
- Poyle
- Colnbrook
- Brands Hill
- Hounslow (West and Heath)
- Iver and Richings Park
- Harlington
- North Staines
- Horton and Wraysbury
- Datchet; and
- Langley.

3.10.1.2 The following community facilities and community facing business have been identified within the community areas:

- GPs;
- Pharmacies;
- Dentists;
- Early year facilities;
- Schools;
- Places of worship;
- Community centres;
- Public houses;
- Post offices;
- Libraries;
- Children's centres;

- Youth centres;
- Sports facilities; and
- Allotments.

3.10.1.3 There is considerable demographic variation and an uneven distribution of community infrastructure across the Scoping Boundary and wider study area.

3.10.1.4 The baseline conditions for Community are further discussed within **Chapter 10: Community** and **Appendix 10.1**.

3.11 Economics and Employment

3.11.1.1 The various study areas for economics and employment are characterised at present by the following baseline conditions:

- In 2025, the core study area experienced both a higher economic activity rate and higher unemployment rate when compared to the regional and national areas;
- There are approximately 1,860 commercial properties across the study area, including retail (50%), industrial (29%), office (15%), other (4%) and light industrial (2%);
- In relation to accommodation (hotels, B&B/guest house, camping, short term rental units) there are approximately 56,825 rooms within the study area, predominantly consisting of hotels (77%);
- Heathrow Airport has been operating at or near capacity for over 2 decades with no spare runway capacity to absorb delays or support new routes;
- Aviation and aerospace contribute £23 billion to UK GDP and support 240,000 direct jobs nationally of which Heathrow alone accounts for around 80,000 of those jobs and handles 60% of all UK air tonnage amounting to £216 billion in goods in 2024.

3.11.1.2 The baseline conditions for Economics and Employment are further discussed within Chapter 11: Economics and Employment.

3.11.2 Recreation

3.11.2.1 The study area for recreation is traversed by a network of recreational routes and has a range of recreational spaces.

3.11.2.2 Indicative recreational receptors includes;

- Amenity green space;
- Cemeteries and churchyards;
- Natural and semi-natural green space;
- Parks and gardens;
- Waterbodies;
- Children's play areas;
- Footpaths;
- Bridleways;

- Trails; and
- Byways.

3.11.2.3 The receptors identified for recreation are further discussed within **Chapter 12: Recreation**.

3.12 Historic Environment

3.12.1.1 A review of the National Heritage List for England (NHLE) identified a total of seven scheduled monuments are located within or partially within the Scoping Boundary, including the following;

- 1002042 - 'Romano-British site 1000yds W of East Bedfont';
- 1002043 - Part of a causewayed enclosure, 632m north-east of Mayfield Farm';
- 1005920 - 'Lord Knyett's Schoolhouse';
- 1003807 –'Bronze Age settlement to the west of Runnymede Bridge';
- 1006944 - 'Two concentric ditches showing as cropmarks at Thorney';
- 1005919 – 'Roman camp'; and
- 1006995 – 'Early medieval and medieval palace and associated monuments'.

3.12.1.2 There are 25 Archaeological Priority Areas (APA) within the Core Study Area of which 19 fall within the Scoping Boundary. The Scoping Boundary extends into three Areas of High Archaeological Potential (AHAP) and two Archaeological Notification Areas (ANA).

3.12.1.3 A total of 435 designated built heritage assets has been identified within the Core Study Area, of which 48 are located within the Scoping Boundary. This includes nine Conservations Areas (CA) and one Grade I listed buildings, one Grade II* listed buildings and 37 Grade II listed buildings.

3.12.1.4 There are three Registered Parks and Gardens (RPGs) within the Core Study Area, of which none fall within the Scoping Boundary itself, including;

- 1000303 - Great Fosters;
- 1001290 - Ditton Park; and
- 1466074 - Stockley Park.

3.12.1.5 The baseline conditions for Historic Environment are further discussed within **Chapter 13: Historic Environment**.

3.13 Health

3.13.1.1 Health Trends, identified within the Study Area include:

- The population density within the Study Area is 2,891 residents per km²;
- The study area has a relatively young age profile compared with England, with a higher proportion of working-age residents (67.1% compared with 63.0%);
- White residents account for 46.3% of the population, compared with 70.1% across the combined Regional Health Study Area and 81.0% nationally.

Conversely, residents identifying as Asian, Asian British or Asian Welsh account for 38.5% of the population, substantially exceeding the regional (13.9%) and national (9.6%) averages;

- Across the Site-Specific Health Study Area, 4.5% of residents are classified as disabled under the Equality Act 2010 and report that their day-to-day activities are limited a lot, whilst a further 6.0% are classified as disabled and report that their day-to-day activities are limited a little;
- Average life expectancy exceeds the London, South East and England averages for both males and females, whilst under-75 mortality rates from all causes, cardiovascular disease and respiratory disease are lower than the corresponding regional and national rates.

3.13.1.2 The baseline conditions for Health are further discussed within **Chapter 14: Health**.

3.14 Landscape, Townscape and Visual Impact

3.14.1.1 The Site forms the western extent of the continuous urban area of London including the London Boroughs of Hillingdon and Hounslow and smaller outlying communities, including Sipson and Harmondsworth. The area is well-populated, with a large resident population living mostly within urban areas and characterised by busy rail (including the Heathrow Express, Elizabeth Line and Piccadilly Line) and road corridors, (including the M4 and M25).

3.14.1.2 The existing Heathrow Airport is a notable feature within the landscape, covering approximately 1,200 hectares (ha) and including a variety of building and infrastructure supporting and related to the existing airport, including, the existing runways, terminal buildings, long stay car parks, hotels, offices and logistics buildings.

3.14.1.3 Open landscapes within the area are included within the Colne Valley Regional Park and Metropolitan Green Belt, with smaller areas of Green Belt land extending north between the A4 and the M4 corridors.

3.14.1.4 The Site is situated within the Thames Valley, National Landscape Character Area (NCA: 115):

"The Thames Valley is a mainly low-lying, wedge-shaped area, widening from Reading, which includes Slough, Windsor, the Colne Valley and the south-west London fringes. The River Thames provides a unifying feature through a very diverse landscape of urban and suburban settlements, infrastructure networks, fragmented agricultural land, historic parks, commons, woodland, reservoirs and extensive minerals workings."

3.14.1.5 There are a number of Country Parks within the vicinity of the Scoping Boundary including;

- Thorney Park, located to the north of the Site;
- Bedfont Lakes, located to the south east of the Site; and
- Cranford Countryside Park, located to the east of the Site .

3.14.1.6 The Site and existing Heathrow Airport are located within a low-lying valley basin associated with the River Thames and the Colne Valley, with elevations generally between 0–10 m Above Ordnance Datum (AOD).

3.14.1.7 The baseline conditions for Landscape, Townscape and Visual Impact are further discussed within **Chapter 15: Landscape, Townscape and Visual Impact.**

3.15 Ground Conditions

3.15.1.1 The Site is underlain by London Clay Formation; Harwich Formation; Lambeth Group and White Chalk Subgroup, bedrock geology.

3.15.1.2 The Site is underlain by superficial deposits, including Head Deposits; Langley Silt Member; Taplow Gravel Member; Alluvium-Clay and Shepperton Gravel Member; Lynch Hill Gravel member; Boyn Hill Gravel Member and Kempton Park Gravel Member.

3.15.1.3 The Site is not located within a groundwater drinking water safeguard zone. Portions of the Site are located within areas designated as groundwater source protection zone (SPZ)3 including those located within; London Borough of Hillingdon, Spelthorne Borough Council, Royal Borough of Windsor and Maidenhead and Slough Borough Council

3.15.1.4 Large portions of the Scoping Boundary are artificial ground, where the natural surface has been significantly altered by human activity. This includes, but is not limited to, landfills, infilled areas and urban development. There are approximately 100 historic landfills and 28 permitted landfills located within the Scoping Boundary.

3.15.1.5 The baseline conditions for Ground Conditions are further discussed within **Chapter 16: Ground Conditions.**

3.16 Agricultural Land and Soils

3.16.1.1 There is potential that a significant portion of the agricultural land within the Site is of BMV quality. The Predictive ALC map shows the areas north and west of the airport predicted to be of excellent and very good quality.

3.16.1.2 The land further to the west and south has partly been surveyed as ALC Subgrade 3a “good quality”. Mostly it is predicted to be of Subgrades 3a “good quality” and 3b “moderate quality”.

3.16.1.3 The baseline conditions for Agricultural Land and Soils are further discussed within **Chapter 17: Agricultural Land and Soils.**

3.17 Materials and Waste

3.17.1.1 Aggregate mineral extraction, primarily sand and gravel, has been undertaken for many years with numerous former and active quarries within the wider vicinity of the Scoping Boundary. The Scoping Boundary lies within an area containing significant known mineral resources.

3.17.1.2 Four parcels of land within the Scoping Boundary are designated in the Hillingdon Local Plan for mineral workings (MSAs 1-4).

3.17.1.3 For the Expansive Study Area there was a total of 52.6 Mm^3 of inert and non-hazardous capacity broken down as follows:

- Inert 27.8 Mm^3; and
- Non-hazardous Landfill 24.8 Mm^3

3.17.1.4 There are a significant number of historical and permitted landfill sites within the Scoping Boundary with various types of waste, including biodegradable waste.

3.17.1.5 The baseline conditions for Materials and Waste are further discussed within **Chapter 18: Materials and Waste**.

3.18 Major Accidents and Disasters

3.18.1.1 The baseline conditions relevant to Major Accidents and Disasters have largely been informed by other topic chapters. The relevant chapters which inform the Major Accidents and Disasters Baseline include:

- **Chapter 6: Biodiversity**;
- **Chapter 10: Community**;
- **Chapter 11: Economics and Employment**;
- **Chapter 13: Historic Environment**;
- **Chapter 14: Health**;
- **Chapter 16: Ground Conditions**;
- **Chapter 17: Agricultural Land and Soils**;
- **Chapter 21: Traffic and Transport**; and
- **Chapter 22: Water Environment**.

3.19 Noise and Vibration

3.19.1.1 The baseline noise and vibration conditions are predominantly influenced by the existing Heathrow Airport including:

- Aircraft noise (including helicopters);
- Aircraft ground noise;

- Including: aircraft taxiing, engine run-ups, auxiliary power unit (APU) use, ground handling equipment, construction and maintenance activities, and noise from service yards and logistics areas.

- Transport (road and rail traffic) noise;
  - Including: major road corridors such as the M4, M25, A4 and A30 and rail noise sources including those from the Elizabeth Line, Heathrow Express, the Piccadilly Line, Great Western Main Line north of Heathrow and the Windsor Lines through Feltham, Staines and Windsor.
- Operational noise and other noise sources.
  - Including: operation of the terminal buildings, the EfW at Colnbrook, local industrial buildings and airport maintenance facilities.

3.19.1.2 The baseline conditions for Noise and Vibration are further discussed within **Chapter 20: Noise and Vibration**.

3.20 Traffic and Transport

3.20.1.1 The area is well connected by road, with the M25 passing through the Scoping Boundary from north to south and the M4 located to the north of the Scoping Boundary. A roadway circles the existing airport made up of the A4 (located to the north of the existing airport), A3044 (located west of the existing airport), A30 (located to the south east of the existing airport) and the South Perimeter Road (located to the south of the existing airport).

3.20.1.2 Rail services connect the existing Heathrow Airport to London, Reading and beyond. With the various existing terminals having connection to the Elizabeth Line, Picadilly Line and the Heathrow Express.

3.20.1.3 Bus services are also available to connect to the wider rail network including South Western Railway Lines, Great Western Railway Lines, Chiltern Trains and Cross Country trains.

3.20.1.4 There are a total of 33 local bus services operating from Heathrow terminals, key local destinations served include Uxbridge, West Drayton and Hayes. Coach providers operate a number of scheduled coach services to destinations including London Victoria Coach Station, Gatwick Airport, Luton Airport and Stansted Airport, in addition to across the UK.

3.20.1.5 There are no National Cycle Networks located within the Scoping Boundary.

3.20.1.6 There are a number of Public Rights of Way (PRoW) which pass through the Scoping Boundary.

3.20.1.7 The baseline conditions for Traffic and Transport are further discussed within **Chapter 21: Traffic and Transport**.

3.21 Water Environment

3.21.1.1 There are numerous surface waters in the Local Study Area (LSA), the main channels from west to east are: Horton Brook, Colne Brook, Poyle Channel, Bigley Ditch, Wraysbury River, River Colne, River Ash, Longford River, The Duke of Northumberland's River and the River Crane. The Proposed Development lies within the hydrological catchment of the River Thames, which in addition to the main channels, there is an extensive network of additional rivers, channels and reservoirs, which are inherently connected.

3.21.1.2 The Study Area includes the following Water Framework Directive (WFD) water bodies:

- The Colne Brook WFD;
- The River Colne (Confluence with Chess to River Thames) WFD;
- The Horton Brook WFD;
- The Portlane Brook WFD;
- The River Crane (Crane WFD water body);
- The Yeading Brook WFD;
- The Upper Duke of Northumberland's River and Longford River WFD; and
- A number of smaller watercourses and ditches are present, and whilst they do not have individual WFD classifications, they will be considered as part of the WFD catchment within which they are located.

3.21.1.3 The Study Area is predominantly underlain by varying superficial deposits comprising alluvium, river terrace deposits (sand and gravel) and head deposits. These are underlain by thick London Clay Formation, the Lambeth Group, the Thanet Formation and the Chalk at depth.

3.21.1.4 Given the presence of shallow groundwater within the underlying gravel deposits and the potential connectivity with watercourses across the area, there are areas susceptible to potential groundwater flooding, particularly within the western portion of the Scoping Boundary.

3.21.1.5 The risk of flooding to the Site is summarised as follows:

- Areas at risk of fluvial flooding within the Site are concentrated in the western half of the Site and at a 'Low' risk of fluvial flooding;
- There are localised areas of surface water flooding scattered throughout the Site;
- The Site generally lies outside the areas of groundwater flood alert;
- The Site is located inland and watercourses are entirely fluvial and not tidally influenced; and
- The majority of the western portion of the Site is at risk (very low) from reservoir flooding, with a reservoir flood flow route running through a section of the eastern portion of the Site.

3.21.1.6 The surface water runoff from the existing airfield is managed across four catchments, the Eastern, Southern, Western and North-Western Catchments. Surface water from each catchment is attenuated and treated to remove

pollutants, primarily in the form of de-icing chemicals and hydrocarbons before being discharged.

3.21.1.7 The baseline conditions for Water Environment are further discussed within **Chapter 22: Water Environment**.

Environmental Impact Assessment Scoping Report

Chapter 4

Approach to EIA

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Appendix 4-1: Transboundary Screening

4 Approach to EIA

4.1 Introduction

4.1.1.1 This chapter sets out the overarching methodology that will be adopted for the ES. It explains how the EIA will identify, evaluate and, where necessary, mitigate likely significant environmental effects. The ES will also describe the assumptions that apply across all disciplines and summarise the EIA scoping and public consultation processes undertaken. Where discipline-specific approaches are required, the relevant technical chapters will set out any bespoke methodologies, limitations and assumptions.

4.1.1.2 The EIA methodology has been developed to reflect the current stage of design. Where elements of the Proposed Development are not yet fixed, this Scoping Report identifies the assumptions applied at this stage. The ES will then adopt a precautionary assessment based on a 'cautious worst case', consistent with the Rochdale Envelope principle and the PINS NSIPs Nationally Significant Infrastructure Projects: Pre-Application Advice on Environmental Impact Assessment – The Rochdale Envelope[1].

4.2 EIA Methodology

4.2.1.1 This Scoping Report has been produced in accordance with the EIA Regulations and appropriate guidance documents. The Inspectorate's Advice Page; Nationally Significant Infrastructure Projects: Pre-Application Advice on Environmental Impact Assessment[2] (PINS EIA Advice) observes that, although not a statutory requirement, the Scoping Opinion is an important document. This is because the scoping process allows for an early identification of the likely significant effects applicable to the EIA Regulations and also provides an opportunity to agree where aspects and matters can be scoped out from further assessment.

4.2.1.2 The Advice Page highlights the essential need for ES to be appropriately focused on aspects and matters where a likely significant effect may occur, so the EIA process is proportionate. This includes scoping out from the ES the need for further assessment aspects and matters where it is appropriate to do so. The Advice Page goes on to advise that applicants should ensure that their scoping request includes sufficient justification for scoping aspects/matters out, and that

[1] Planning Inspectorate. Nationally Significant Infrastructure Projects: Pre-Application Advice on Environmental Impact Assessment, The Rochdale Envelope. July 2026. Available at: Nationally Significant Infrastructure Projects: Pre-Application Advice on Environmental Impact Assessment - GOV.UK (accessed on: 24/09/2026).
[2] Planning Inspectorate. Nationally Significant Infrastructure Projects: Pre-Application Advice on Environmental Impact Assessment. July 2026. Available at: Nationally Significant Infrastructure Projects: Pre-Application Advice on Environmental Impact Assessment - GOV.UK (accessed on: 24/09/2026).

this justification should be evidence-based and have reference to the assessment process.

4.2.1.3 **Table 4-1** sets out the requirements of the Regulation 10(3) of the EIA Regulations in relation to scoping and where the information is provided in this report. **Table 4-2** sets out guidance provided by PINS on scoping and describes where the information is provided in this report.

Table 4-1: Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 requirements for scoping

Requirement	Location in this Scoping Report
A plan sufficient to identify the land	Figure 2-1: EIA Scoping Boundary
A description of the Proposed Development, including its location and technical capacity	Chapter 2: The Proposed Development
An explanation of the likely significant effects of the development on the environment	Contained in individual technical chapters 5 to 23
Such other information or representations as the person making the request may wish to provide	Chapter 3: Description of the Existing Site and its Surroundings

Table 4-2: PINS Advice Page, information to enable adequate understanding of the proposals and to support the scoping of matters in and out of the EIA.

Requirement	Location in this Scoping Report
A description of all elements of the proposed development	Chapter 2: The Proposed Development
A description of the location of the proposed development	Chapter 3: Description of the Existing Site and its Surroundings
Referenced plans presented at an appropriate scale to ensure legibility and all known features associated with the proposed development	Chapter 2: The Proposed Development

Requirement	Location in this Scoping Report
An explanation of the approach to addressing uncertainty in relation to elements of the proposed development where this remains, and the clear identification of where flexibility or optionality is likely to be sought	Chapter 2: The Proposed Development and Chapter 4: Approach to EIA
A description of the development phases and how each phase will be assessed in the ES (construction, operation including maintenance, and decommissioning)	Chapter 2: The Proposed Development and Chapter 4: Approach to EIA
An outline of the reasonable alternatives studied and the reasons for selecting the preferred option including any views sought through consultation and/ or engagement and how these have informed decision-making – or, where alternatives remain under consideration, a description of how it proposes to select the preferred option(s) taking into effects on the environment	Chapter 1: Introduction
Results of desktop and baseline studies undertaken to date, where available	Technical chapters (Chapters 5 to 23)
A detailed description of the aspects and matters proposed to be scoped out of further assessment with reasoning and supporting information provided	Technical chapters (Chapters 5 to 23)
A summary table depicting each of the aspects and matters that are requested to be scoped out	Chapter 26: Summary
For aspects and matters to be scoped in, a description of the methods to be used to further refine baseline conditions and to assess the significance of effects	Technical chapters (Chapters 5 to 23)

Requirement	Location in this Scoping Report
A summary of any measures proposed to avoid, reduce or prevent likely significant effects that are known at this stage and how they may be secured (with reference to a draft commitments register where relied upon to scope matters out)	Chapter 4: Approach to EIA Volume IV: Draft Commitments Register Technical chapters (Chapters 5 to 23)
References to any guidance and best practice to be applied when defining the baseline, assessing effects or prescribing mitigation	Technical chapters (Chapters 5 to 23)
Evidence of any agreements on the proposed scope of assessment with relevant bodies (e.g. the statutory nature conservation bodies or local authorities)	Technical chapters (Chapters 5 to 23)
An outline of the structure of the proposed ES	Chapter 25: Outline Structure of the Environmental Statement

4.3 Spatial and Temporal Scope

4.3.1.1 Each environmental topic will define the spatial scope, including the distance from the Proposed Development, and the temporal scope, including the assessment periods over which significant environmental effects could occur.

4.3.2 Spatial Scope

4.3.2.1 The geographic location and context within which the Proposed Development sits are described in **Chapter 3: Description of the Existing Site and its Surroundings**.

4.3.2.2 The spatial scope for each topic assessment will depend on the nature of the potential effects and the location of receptors that could be affected. These study areas are described in each technical chapter (Chapters 5 to 23). The spatial scope of the technical assessment will take account of:

- Physical area of the Proposed Development;
- Nature of the baseline environment; and
- Manner and extent to which environmental effects may occur.

4.3.2.3 The technical chapters describe how the study area will be set out for the assessment of likely significant environmental effects associated with that topic including the assumptions made with regards to establish the spatial scope of the current and future baselines. The spatial scope is undertaken on a ‘cautious worst

case' in line with the principles of the 'Rochdale Envelope' and in accordance with the PINS EIA Advice[3].

4.3.2.4 The ES will explain any changes made following EIA scoping, including how the evolving environmental assessment, design development and consultation feedback have informed the refinement of the Order Limits.

4.3.3 Temporal Scope

4.3.3.1 An environmental effect can be categorised as either temporary or permanent. Temporary effects will generally be described as short-term, medium-term or long-term, unless topic specific methodology defines alternative periods. Following good practice ES, temporary effects are generally categorised as:

- Short-term (a period of up to 1 year);
- Medium-term (a period of between 1 year and up to 5 years); and
- Long-term (a period of more than 5 years).

4.3.3.2 The temporal scope considers the likely significant effects that may arise during the principal phases of the Proposed Development, assessed against the relevant baseline scenario. These phases are:

- Construction, including demolition, site clearance and enabling works;
- Operation, including maintenance; and
- Decommissioning, where reasonably foreseeable and relevant to the assessment.

Construction

4.3.3.3 Construction phase effects will include those arising from demolition, site clearance, enabling works and construction activities, together with any temporary or permanent effects associated with the physical works required to deliver the Proposed Development.

4.3.3.4 Construction of the Proposed Development is anticipated to be undertaken over a period of approximately six years, with the delivery of different components occurring in separate phases. The duration, sequencing and timing of individual phases remain under

4.3.3.5 development and will be informed by design evolution, operational requirements and demand. Subject to the DCO consenting process, construction is anticipated to commence in the early 2030s. The construction programme and phasing strategy will be refined and applied to the assessments undertaken at the ES stage.

[3] Planning Inspectorate. Nationally Significant Infrastructure Projects: Pre-Application Advice on Environmental Impact Assessment, The Rochdale Envelope. July 2026. Available at: Nationally Significant Infrastructure Projects: Pre-Application Advice on Environmental Impact Assessment - GOV.UK(accessed on 24/08/2026).

Operation

4.3.3.6 Operational effects will occur following completion of construction, with the earliest opening year currently anticipated to be 2035. The ES will identify the relevant operational assessment years or scenarios for each technical topic, where these are required to assess likely significant environmental effects.

4.3.3.7 The proposed assessment years are:

- **Existing Baseline Conditions** – Each topic-based chapter will include a description of the current (baseline) environmental conditions. The baseline conditions at the site and within the study area form the basis of the assessment, enabling the likely significant effects to be identified through a comparison with the baseline conditions. The year considered to be the 'baseline year' for the assessment varies from topic-to-topic to take into, for example, the availability of baseline data for a given topic area which may not be updated on an annual basis. For each topic, the reason why a particular baseline year was chosen will be clearly explained.
- **Future Baseline** – For the Proposed Development, the future baseline will be taken to not include the expansion of Heathrow Airport to include a third runway. However, this scenario does not preclude all development at Heathrow Airport, nor does it assume that the environmental baseline conditions would remain the same. Irrespective of development of a new third runway, Heathrow Airport will continue to develop to suit the future needs of passengers and has certain permitted development powers to do so, alongside the potential future use of consenting regimes such as the Town and Country Planning Act. The assumed timing of such developments will be set out within the scenario. Equally the environmental baseline conditions are not assumed to remain the same as, for example, air quality has been improving in London over time, aviation emissions can be expected to continue to reduce and the effects of climate change will also need to be considered. Given that there is an inherent degree of uncertainty in these future scenarios, multiple scenarios will be identified to identify the anticipated range of outcomes. Different topics will identify future scenarios that are of most relevance to them.
- **Release of first phase of capacity** – the year in which the number of ATMs first increase (the 'early ATMs'), which may be prior to the third runway being operational.
- **Year of predicted maximum environmental effects during the construction phase** – potentially the year(s) of highest construction vehicle movements, highest number of workforce or highest noise/dust pollution levels, albeit may differ between technical topics, as, for example, the year of highest noise levels may not coincide with the year of highest NO_x emissions. Should operation commence before completion of construction activities, assessment of the combined activities will also be undertaken.
- **Year of opening** – the year that the first ATMs use the third runway
- **Year of predicted maximum environmental effects during the operational phase** – potentially the year(s) of highest ATMs, passengers, or emissions from road vehicles are the highest, albeit they may differ between

environmental topics, as. Should operation commence before completion of construction activities, assessment of the combined activities will also be undertaken.

- **Year of maximum ATM capacity** – the year in which the maximum forecasted number of ATMs utilise Heathrow Airport.

4.3.3.8 Within each topic chapter, additional assessment years to those described above may also be identified, if required. Operational effects will include those associated with the operation, maintenance, of the Proposed Development.

Decommissioning

4.3.3.9 The Proposed Development is anticipated to form a permanent part of Heathrow Airport's infrastructure and operation. The majority of its components are expected to remain in place throughout the operational life of the airport and would be subject to routine inspection, maintenance, refurbishment, renewal and replacement, as necessary. Accordingly, a separate project-wide decommissioning phase is not currently anticipated for the Proposed Development.

4.3.3.10 Notwithstanding this, the design life of individual components will continue to be refined as the design of the Proposed Development evolves. The relevance of decommissioning activities will therefore be considered within each technical assessment. Where decommissioning effects are considered reasonably foreseeable and capable of giving rise to likely significant environmental effects, they will be assessed within the relevant technical chapter. This may include circumstances where specific elements are identified as having a finite design life and may require removal, replacement or decommissioning during the operational lifetime of the Proposed Development.

4.3.3.11 Where decommissioning effects are not considered reasonably foreseeable, or where such effects would be no greater than those arising during construction and have been adequately addressed through the construction assessment, they may be scoped out with appropriate justification.

4.3.3.12 Any future airport decommissioning would likely require its own planning consent and a separate assessment.

4.4 Approach to identifying likely significance effects

4.4.1.1 The scoping in and out of proposed effects in this Scoping Report is based on the information available at time of writing with respect to the Proposed Development description (contained within **Chapter 2**) and assessment of the following:

- Receptors that could be affected by the Proposed Development;
- Activities expected to be involved in the construction, operational and decommissioning phases of the Proposed Development;
- Changes to the baseline condition that could result from these activities;

- The expected magnitude and other characteristics of these environmental changes, and the susceptibility of relevant receptors to exposure to these changes; and
- The extent to which the design of the Proposed Development avoids, reduces or enhances any likely effects.

4.4.1.2 Drawing upon this information, the assessment of whether an effect has the potential to be of likely significance has been based on professional judgement and where relevant, recommended topic specific methodologies and established practice. This will take into account the professional's understanding of the balance between the magnitude of an impact (**Section 4.4.3)** and the sensitivity of the receptor (**Section 4.4.4)** and whether the effect is permanent or temporary, whether it is reversible and the likelihood of occurrence.

4.4.1.3 If the information that is available at the Scoping Report stage does not enable a robust conclusion to be reached that a potential effect is not likely to be significant, the effect is then scoped into the assessment. All other effects (i.e. that are not specifically identified in the Scoping Report) are not likely to be significant. Where relevant, this is described in each technical chapter.

4.4.2 Rochdale Envelope

4.4.2.1 The design of the Proposed Development and in turn the environmental assessment follows the principles of the Rochdale Envelope, which allows for flexibility within the project proposals whilst allowing for the assessment of the worst-case scenario.

4.4.2.2 PINS EIA Advice addresses the degree of flexibility that would be considered appropriate to deal with uncertainties associated with applications for development consent. The main outcomes can be summarised:

- *"the assessment should be based on a cautious 'worst case' approach, and the mitigation measures proposed should adequately address the worst case*
- *information should be sufficient to enable the main, or the likely significant effects on the environment to be assessed and the mitigation measures should be described, and*
- *the need for flexibility should not be abused and does not give applicants an excuse to provide inadequate project descriptions."*

4.4.2.3 This ensures that all potentially significant effects (beneficial or adverse) of the Proposed Development will have been assessed, providing the flexibility required to take advantage of technological improvements that may occur between the application being submitted and construction being commenced.

4.4.2.4 As the design evolves in response to the environmental assessment and consultation processes (which run in parallel), the parameters may be further developed from those set within this document in order to deliver the best environmental outcomes for the Proposed Development. The parameters assessed in the ES will be set out in the concept design parameters and principles

document submitted with the DCO application and secured in the DCO. The Proposed Development is expected to evolve within the extent of the Scoping Boundary and the parameters outlined in this Scoping Report

4.4.3 Impact Magnitude

4.4.3.1 The significance of an environmental effect is determined by the interaction of magnitude and sensitivity, whereby the effects can be positive (beneficial) or negative (adverse).

4.4.3.2 The methodology for determining the scale or magnitude of impact is set out within **Table 4-3;** this is based upon industry best practice.

Table 4-3: Methodology for Assessing Magnitude

Magnitude of Impact	Criteria for Assessing Impact
High	Total loss or major/substantial alteration to key elements/features of the baseline (pre-development) conditions such that the post development character/composition/attributes will be fundamentally changed.
Medium	Loss or alteration to one or more key elements/features of the baseline conditions such that post development character/composition/attributes of the baseline will be materially changed.
Low	A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying character/composition/attributes of the baseline condition will be similar to the pre-development circumstances/situation.
Very Low	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation

4.4.4 Sensitivity

4.4.4.1 The sensitivity of a receptor is based on the relative importance of the receptor using the scale set out in **Table 4-4;** this is based upon industry best practice.

Table 4-4: Methodology for Determining Sensitivity

Sensitivity	Examples of Receptors
High	The receptor / resource has little ability to absorb change without fundamentally altering its present character or is of international or national importance.
Medium	The receptor / resource has moderate capacity to absorb change without significantly altering its present character or is of high importance.
Low	The receptor / resource is tolerant of change without detriment to its character, is of low or local importance.
Very Low	The receptor / resource is tolerant of change without detriment to its character, or does not make a significant contribution to local character or distinctiveness and is not designated

4.4.5 Assessment of Effect Significance

4.4.5.1 After the magnitude of the impact and the sensitivity of the receptor/resource have been determined, the effect significance will be classified using the matrix in **Table 4-5;** this is based upon industry best practice. This illustrates the interaction between impact magnitude and receptor sensitivity.

Table 4-5: Effect Significance Matrix

	Sensitivity			
Magnitude	High	Medium	Low	Very low
High	Substantial Adverse / Beneficial	Major Adverse / Beneficial	Moderate Adverse / Beneficial	Minor Adverse / Beneficial
Medium	Major Adverse / Beneficial	Moderate Adverse / Beneficial	Minor Adverse / Beneficial	Negligible
Low	Moderate Adverse / Beneficial	Minor Adverse / Beneficial	Negligible	Negligible
Very Low	Minor Adverse / Beneficial	Negligible	Negligible	Negligible

4.4.5.2 Some of the technical Chapters (5 -23) will use specific terminology which stems from topic-specific guidance, and in instances of that guidance will be presented by the Chapters and adopted within them. **Table 4-6** below provides generic definitions of the terminology used to categorise effects where specific topic-related descriptions are not stated, which are based upon industry best practice.

Table 4-6: Generic descriptions of significance ratings

Effect	Description
Substantial	An effect that is likely to be an important consideration at an international or national level because it will contribute to achieving international objectives, or is likely to result in the exceedance of statutory objectives or breaches of legislation.
Major	An effect that is likely to be an important consideration at a national or regional level because it will contribute to achieving national/regional objectives or is likely to result in the exceedance of statutory objectives or breaches of legislation.
Moderate	An effect that is likely to be an important consideration at a regional level.
Minor	An effect that is likely to be an important consideration at a local level.
Negligible	An effect that is likely to have a negligible or neutral influence, irrespective of other effects.

4.4.5.3 The ES will clearly identify the significance of each potential environmental effect. As a general rule, substantial, major and moderate effects will be treated as significant, while minor and negligible effects will be treated as not significant. Where the significance conclusion is not clear-cut, professional judgement will be applied. This will take account of the relationship between impact magnitude and receptor or resource sensitivity, together with the nature of the effect, including whether it is permanent or temporary, its frequency, reversibility and likelihood of occurrence.

Nature of Effect

4.4.5.4 The criteria set in **Table 4-3, Table 4-4 and Table 4-5** consider the scale of the change from the impact and the tolerance to change of the receptor and thus, are equally applicable to the consideration of either adverse (negative) or beneficial (positive) effects.

4.4.5.5 Effects will also be identified as whether they are direct or indirect in nature:

- **Direct** – an effect without intervening factors (e.g. the removal of trees to allow for the construction of new structures for the Proposed Development).

- **Indirect** – an effect not directly caused by the Proposed Development (e.g. changes to the pattern of traffic movements across the road network as a result of a new road being constructed).

Duration of Effect

4.4.5.6 The duration of an effect can be measured as short, medium and long term as started above in **Section 4.3**

4.4.5.7 Effects will be identified as to whether they are permanent or temporary in nature:
- **Temporary** – an effect lasting only for a limited period of time.
- **Permanent** – an effect lasting or intended to last or remain unchanged indefinitely.

Reversibility of Effect

4.4.5.8 Effects will be identified as to whether they are reversible or irreversible in nature:
- **Reversible** – an effect that is capable of being reversed so that the previous state is restored.
- **Irreversible** – an effect that is not capable of being undone or altered.

4.4.5.9 The nature, duration and reversibility of effects will inform professional judgement when determining the overall significance of effects.

4.4.6 Environmental mitigation

4.4.6.1 The mitigation hierarchy is a systematic approach used to minimise adverse effects of a project or scheme on the environment and people. It is a series of steps or principles to guide decision-making and prioritise activity. The ES will account for the mitigation hierarchy within each environmental chapter.

4.4.6.2 ISEP (formerly IEMA) guidance document Implementing the Mitigation Hierarchy from Concept to Construction (2024)[4] states that mitigation falls into three categories:
- **Primary Mitigation –** Also known as embedded mitigation, primary mitigation refers to any modifications made to the location or design of the development during the pre-application phase that are an inherent part of the project, and do not require additional action to be taken.
- **Secondary Mitigation –** Also known as additional mitigation, secondary mitigation includes actions that will require further activity in order to achieve the anticipated outcome. These may be imposed as part of the planning consent.
- **Tertiary Mitigation -** Tertiary mitigation includes actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are considered to be standard practices used to manage

[4] ISEP (formerly IEMA). Implementing the Mitigation Hierarchy from Concept to Construction. August 2024. Available at: iema-mitigation-in-eia-guidance-final.pdf (Accessed on:18/07/2026).

commonly occurring environmental effects. These are also considered as embedded mitigation.

4.4.6.3 The mitigation measures categories will be applied in all the technical chapters. As part of this Scoping Report, an initial assessment will be undertaken including primary and tertiary mitigation, as embedded. If likely significant effects are identified, then a subsequent assessment will be undertaken including secondary mitigation (additional) which then gives the residual effect assessment. Within the ES, the mitigation measures that require monitoring will be explained in further detail: who will be responsible; the frequency of monitoring; reporting required; and the need for any remedial action required.

4.4.6.4 Primary mitigation is described as 'embedded mitigation' in the context of the Scoping Report and ES that will follow. Embedded mitigation relates to opportunities to avoid or reduce significant effects through design that are taken where possible. Subsequent environmental assessment will also be completed, taking these measures into account as part of the Proposed Development.

4.4.6.5 In addition to mitigation, opportunities to incorporate environmental enhancements and environmental net gain will be considered in the ES, where relevant. Environmental enhancement measures will be considered separately from mitigation and will not be relied upon to reduce the significance of adverse effects at the scoping stage.

4.5 Commitments Register

4.5.1.1 In accordance with the Planning Inspectorate's NSIPs: Commitments Register guidance (2026[5], the first iteration of a Commitments Register is provided within **Volume IV: Draft Commitments Register**.

4.5.1.2 The NSIP advice page provides the following guidance:

"the first iteration is submitted with a scoping request setting out where applicants rely on commitments as the basis for scoping matters out or refining the scope of assessment."

4.5.1.3 The Commitments Register proposed to be provided with submission of the ES will record embedded design measures (Primary and Tertiary Mitigation), environmental commitments and control measures (Secondary Mitigation), to secure the mitigation provided for potential environmental effects.

4.5.1.4 The Commitments Register will follow the template provided by the Planning Inspectorate as recommended in the guidance.

[5] Planning Inspectorate. Nationally Significant Infrastructure Projects: Commitments Register. August 2026. Available at: Nationally Significant Infrastructure Projects: Commitments Register - GOV.UK (accessed on: 18/07/2026).

4.5.1.5 The Commitments Register is a secured document, as such the first iteration is provided within this Scoping report (**Volume IV: Draft Commitments Register**), giving a clear indication of where measures are relied upon to scope matters out or to refine the scope of the assessment , with further details to be provided as the design develops and further details surrounding the development can be secured and relied upon for the purposes of EIA. In line with the guidance, the first iteration of the Commitments Register included as a result, the Commitments Register does not reflect the full range of mitigation measures described within the technical chapters. The technical chapters will present the full suite of mitigation measures, defined by the three categories described above.

4.6 Cumulative and In-Combination Effects

4.6.1.1 EIA Regulations require the consideration of the potential impact of inter-relationships and cumulative effects of 'existing and/or approved development' with the Proposed Development.

4.6.1.2 **Chapter 24: Approach to Cumulative and In-Combination Effects** of the Scoping Report outlines the methodology of the potential for likely significant cumulative effects of the Proposed Development. The methodology follows the PINS NSIPs - Advice on Cumulative Effects Assessment (2024)[6].Where appropriate, technical chapters will present specific topic methodology for assessing cumulative and in-combination effects within Section X.9 of the chapters.

4.6.2 Transboundary Effects

4.6.2.1 Regulation 32 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 require consideration where a proposed development in one European Economic Area ('EEA') State is likely to have significant effects on the environment in another EEA State or when an EEA state is of the view that its environment is likely to be significantly affected by a proposed development, thus giving rise to transboundary effects.

4.6.2.2 Schedule 4 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 furthermore states that the ES must include *'The description of the likely significant effects on the factors specified in regulation 5(2) should cover the direct effects and any indirect, secondary, cumulative, transboundary… effects of the development'*.

4.6.2.3 A transboundary screening exercise has been undertaken and is provided in **Appendix 4-1**. Based on the information currently available and provided within the screening, no likely transboundary effects associated with the Proposed

[6] Planning Inspectorate. Advice on Cumulative Effects Assessment. 2025. Available at: Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment - GOV.UK (accessed on: 18/07/2026).

Development have been identified. This will be kept under review as the EIA progresses.

4.7 Engagement

4.7.1 Engagement Strategy

4.7.1.1 Further to the Applicant's previous extensive engagement, the Applicant has developed its stakeholder engagement strategy and undertaken stakeholder mapping. A dedicated stakeholder engagement team has been appointed for the Proposed Development, with supporting leads for a range of key stakeholders.

4.7.1.2 The Planning and Infrastructure Act 2025 removed the requirement for statutory pre-application consultation, and updated Government guidance was published which subsequently took effect from 24 July 2026. The updated guidance is informing the Applicant's commitment to a proportionate programme of engagement and consultation during the pre-application period against the backdrop of the ANPS and the emerging Draft HENPS.

4.7.1.3 Three stages of engagement and consultation are proposed during the pre-application period, comprising two rounds of informal engagement/consultation and one round of formal consultation:

- Stage 1 Consultation – the Applicant's launch took place between June and July 2026 which communicated the reactivation of the Applicant's Proposed Development. The Applicant undertook a renewed engagement with a focus on the most impacted local communities (including in-person events) along with initial engagement/meetings with other key stakeholders. This is further explained below and in Section 7 of this document.
- Stage 2 Engagement – further engagement is planned from Q4 2026 onwards, after receipt of an updated PINS Scoping Opinion. During this stage, the Applicant will engage with communities and stakeholders on the emerging proposals. The Applicant will develop its engagement approach with Local Authorities ahead of HWL's subsequent formal consultation.
- Stage 3 Consultation – formal consultation is planned from Q2 2027 and will be informed by the updated Government guidance on consultation. The Applicant currently plans to consult on its evolved plans, including initial environmental information and other key documents, as well as arranging dedicated meetings with key stakeholders and in-person events being held within communities.

4.7.2 Engagement with Statutory Bodies

4.7.2.1 The Applicant has identified a range of statutory bodies it will engage with during the pre-application stage. The below tables provides an initial list of identified key statutory bodies and other key stakeholders who will be engaged during the DCO pre-application process, including how the Applicant anticipates to engage with those bodies. Engagement has already commenced with some of these bodies. This list is not an exhaustive list, and will involve a range of key stakeholders.

Table 4-7: Initial List of Main Statutory Bodies / Key Stakeholders & Engagement Approach

Main Statutory Bodies / Key Stakeholders	Engagement Approach
Civil Aviation Authority (CAA)	The Applicant has undertaken extensive engagement, with at least monthly or bi-monthly meetings having taken place since September 2025. Ongoing regular meetings will continue to take place.
Department for Transport (DfT)	From July 2025, the Applicant engaged with the DfT via submissions. Engagement with the DfT is ongoing.
National Highways	Early meetings were held in September and November 2025. Contact was established in May and June 2026, and it is anticipated that regular meetings will take place.
Transport for London	Early meetings were held in October, November 2025 and in February 2026. Contact was established in May and June 2026, and it is anticipated that regular meetings/working groups will take place.
Network Rail	Early meetings were held in November 2025. Contact is being established and it is anticipated that regular meetings/working groups will take place.
Active Travel England	Initial contact made.
Heathrow Area Transport Forum Expansion Group	Initial contact made. Meetings to follow.
Council of Independent Scrutiny of Heathrow Airport (CISHA)	The Applicant has an established relationship with CISHA. Regular meetings (at least monthly) have taken place as it relates to the Proposed Development since at least mid-2025, and it is anticipated that regular meetings will continue to take place.
Historic England & Greater London Archaeology Advisory Service (GLAAS)	Contact was established in May and June 2026, and it is anticipated that regular meetings/working groups will take place.
Natural England	Contact has been established, and it is anticipated that regular meetings/working groups will take place.
The Environment Agency	Contact was established in May and June 2026, and it is anticipated that regular meetings/working groups will take place.

Main Statutory Bodies / Key Stakeholders	Engagement Approach
Colne Valley Regional Park	Contact was established in May and June 2026, and it is anticipated that regular meetings/working groups will take place.
Utility providers – including, but not limited to: National Grid Electricity Transmission, Southern Electric Power Distribution Plc, and UK Power Networks, Cadent Gas Limited, Affinity Water and Thames Water.	The Applicant is establishing contact with the respective utility providers.
Department for Environment, Food & Rural Affairs (DEFRA)	Contact was established in May and June 2026, and it is anticipated that regular meetings will take place.
Board of Airline Representatives UK	The applicant has had regular meetings with members of BAR UK for over 12 months and it is expected that further extensive engagement will continue.
Heathrow Passenger Forum	Contact was established in July 2025 and it is expected that further meetings will take place.
Airline Operators Committee	The applicant has had extensive engagement for over 12 months and it is expected that this will continue.

4.7.3 Engagement with Local Authorities

4.7.3.1 The table below identifies local authorities anticipated to be the host authorities (or relevant organisations representing local authorities) who will be engaged during the pre-application process. This list will be kept under review across the pre-application period as the draft Order Limits is developed.

4.7.3.2 The Applicant intends to enter into Planning Performance Agreements ('PPA') with key local authorities, and discussions are underway in this space.

4.7.3.3 Where required, the Applicant anticipates engaging with the key local authorities via pre-application 'principal areas of disagreement summary statements' ('PADSS') and/or Statements of Common Ground (SoCG) as appropriate, and these will be discussed with key stakeholders.

Table 4-8: List of Main Local Authorities and Engagement Approach

Local Authorities	Engagement Approach
London Borough of Hillingdon	Contact was established in May 2026, and initial introductory meetings have been held in June 2026. It is anticipated that regular meetings/working groups will take place.
London Borough of Hounslow	Contact was established in May 2026, and an initial meeting held in June 2026. It is anticipated that regular meetings/working groups will take place.
Slough Borough Council	Contact was established in May 2026, and an initial meeting held in June 2026. It is anticipated that regular meetings/working groups will take place.
Spelthorne Borough Council[7]	Contact was established in May 2026 and an initial meeting is being scheduled. It is anticipated that regular meetings/working groups will take place.
Runnymede Borough Council[8]	Initial contact has been established and it is anticipated that regular meetings/working groups will take place.
Royal Borough of Windsor and Maidenhead	Contact was established in May 2026, and an initial meeting was held in September 2026. It is anticipated that regular meetings/working groups will take place.
Buckinghamshire Council	Contact was established in August 2026 and initial meetings held. The Applicant has also attended Buckinghamshire's Transport Environment Communities & Climate Change Select Committee. It is anticipated that regular meetings/working groups will take place.
London Borough of Ealing	Initial contact is being established and it is anticipated that regular meetings/working groups will take place.
London Borough of Richmond	Initial contact has been established and it is anticipated that regular meetings/working groups will take place.

[7] From April 2027 will be part of the new West Surrey Council.
[8] From April 2027 will be part of the new West Surrey Council.

Local Authorities	Engagement Approach
Greater London Authority (GLA)	Contact was established in May 2026 and an initial meeting with the GLA is scheduled for July 2026. It is anticipated that regular meetings/working groups will take place.
Surrey County Council[9]	Contact was established in May 2026, and an initial meeting held in June 2026. It is anticipated that regular meetings/working groups will take place. The Applicant acknowledges that from April 2027 Surrey will move to two unitary councils – East Surrey and West Surrey.
Heathrow Strategic Planning Group (HSPG)	Contact was established in May 2026, and initial meetings were held in June 2026. It is anticipated that regular meetings/working groups will take place.
West London Alliance	Contact is being established from July 2026.

[9] From April 2027, Surrey County Council and the 11 District and Borough Councils in Surrey will be dissolved and replaced by the new West Surrey Council and East Surrey Council.

Environmental Impact Assessment Scoping Report

Chapter 5
Air Quality and Odour

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5 Air Quality and Odour

5.1 Introduction

5.1.1.1 This Chapter of the Environmental Impact Assessment (EIA) Scoping Report has been prepared by Cambridge Environmental Research Consultants Ltd (CERC) and Cass Allen Associates Ltd and sets out the likely significant effects on air quality and odour produced by the Proposed Development, which will be reported in the ES.

5.1.1.2 The ES will assess whether the Proposed Development is likely to give rise to significant air quality effects, either within or outside the Scoping Boundary. The assessment will consider compliance with the EIA Regulations and whether the Proposed Development could affect the UK's ability to comply with statutory air quality limits, objectives and targets.

5.1.1.3 The ES will also assess whether potentially odorous activities within the Site are likely to result in significant odour amenity effects at existing sensitive receptors.

5.1.1.4 This chapter should be read in conjunction with **Chapter 6: Biodiversity**, **Chapter 11: Health** and **Chapter 21: Traffic and Transport**.

5.2 Policy, Legislation and Guidance

5.2.1.1 This section identifies the relevant air quality and odour legislation, policies and guidance that have informed the scope. Relevant legislation is detailed in **Table 5-1**, policy in **Table 5-2** and guidance in **Table 5-3**.

Table 5-1: Legislation relevant to the Air Quality and Odour assessment

Relevant Legislation	Relevance to assessment
International	

Relevant Legislation	Relevance to assessment
Directive 2016/2284 on the reduction of national emissions of certain atmospheric pollutants	This Directive sets emission ceilings for the European Community through the National Emissions Ceilings Directive (NECD) to protect its citizens, its man-made structures and its diverse environments. The Directive sets emission reduction commitments for each Member State for the total emissions of NO_x, SO_X, NMVOC, NH_3 and $PM_{2.5}$ for 2020 and 2030. The NECD was transposed into UK law as the National Emissions Ceilings Regulations (NECR), described below.
National	
National Emission Ceilings Regulations (NECR) 2018 **S.I. 2018/129**	The NECR 2018 came into force on 1st July 2018 and transposes Directive 2016/2284/EU on the reduction of national emissions of certain atmospheric pollutants into UK legislation. The Secretary of State must prepare an inventory of emissions of specified pollutants (including SO_2, NO_x, CO, PM_{10}, $PM_{2.5}$ and Pb, which also have AQOs) occurring within the UK every year, and prepare projections of emissions every two years. The Secretary of State must ensure that the total anthropogenic emissions occurring with the UK for each of the specified pollutants do not exceed specific amounts (up to and including 2019). From 2020 onwards, emission ceilings are replaced by emission reduction commitments (ERCs), which are presented as a percentage reduction of emissions against a 2005 baseline. The Secretary of State must also prepare and implement a national air pollution control programme in order to limit anthropogenic emissions in accordance with national emission reduction commitments.

Relevant Legislation	Relevance to assessment
Part IV of the Environment Act 1995	Part IV of the Environment Act requires that Local Authorities periodically review air quality within their individual area. This process of Local Air Quality Management (LAQM) is an integral part of delivering the Government's 'air quality objectives' (AQOs). AQOs are objectives for the restriction of the levels at which particular substances are present in the air, and are set out in the Air Quality (England) Regulations 2000, prepared pursuant to section 87(2)(b) of the Environment Act 1995 (which allows the Government to make regulations setting AQOs). From the 2016 reporting year, Defra introduced a streamlined process with a single Annual Status Report for reporting on LAQM. Where the assessment indicates that some or all of the AQOs could potentially be exceeded, the Local Planning Authority has a duty to declare an Air Quality Management Area (AQMA). The declaration of an AQMA requires the Local Planning Authority to implement an Air Quality Action Plan.
The Air Quality Standards Regulations 2010 **S.I. 2010/1001**	The Air Quality Standards Regulations 2010 came into force on 11th June 2010 and transpose Directive 2008/50/EC into UK legislation. The limit values in Directive 2008/50/EC are transposed into the Regulations with attainment dates in line with the Directive.
Environment Act 2021	The Act allows the Secretary of State by regulations to set long-term targets in respect to the natural environment or people's enjoyment of the natural environment. The priority areas are: air quality; water; biodiversity; and resource efficiency and waste reduction. There is an obligation by regulations to set a target in respect to annual mean $PM_{2.5}$ in ambient air and prepare an environmental improvement plan (EIP). The requirements of the EIP include the setting, review and revision of interim targets.

Relevant Legislation	Relevance to assessment
The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023	Exercising the powers of the Environment Act 2021, the regulation sets the following targets for $PM_{2.5}$: - Annual mean concentration of 10 µg/m^3 to be met by 31st December 2040; and - At least 35% reduction in population exposure by the end of 31st December 2040, compared to baseline period of 1st January 2016 to 31st December 2018.
Environmental Protection Act 1990 **Part III Statutory Nuisances and Clean Air**	The Act sets out the nuisance regime in the UK. Local authorities have a duty to inspect their areas for statutory nuisances, which explicitly includes smells or effluvia arising from industrial, trade, or business premises that are prejudicial to health or nuisance.

Table 5-2: Policy relevant to the Air Quality and Odour assessment

Relevant Policy	Relevance to assessment
International	
Convention on Long Range Transboundary Air Pollution (CLRTAP)[1]	The Convention on Long Range Transboundary Air Pollution (CLRTAP) is a United Nations treaty aimed at reducing and preventing air pollution across Europe and North America, addressing the transboundary movement of air pollutants. It was extended by the Gothenburg Protocol (1999). The UK has an international commitment to report its estimates of UK air pollutant emissions to the United National Economic Commission for Europe (UNECE) for CLRTAP to track its progress.
Gothenburg Protocol 1999 (as amended)[2]	The 1999 Gothenburg Protocol establishes national emission ceilings for four pollutants – sulphur (SO_2) nitrogen oxides (NO_x), volatile organic compounds (VOCs) and ammonia (NH_3) – covering the period

[1] United Nations Economic Commission for Europe,1979 Convention on Long-range Transboundary Air Pollution, 1979
[2] United Nations Economic Commission for Europe, 1999 Protocol to Abate Acidification, Eutrophication and Ground-level Ozone to the Convention on Long-range Transboundary Air Pollution, as amended on 4 May 2012, 2012

Relevant Policy	Relevance to assessment
	2010 to 2020. Countries with emissions causing more severe environmental or health impacts, and where reductions are less costly, were tasked with making the most significant cuts. The Protocol also establishes stringent limit values for emissions from specific sources, such as combustion plants, electricity production facilities, dry cleaning operations, cars and lorries. The amendment in 2012 introduced national emission reduction commitments for 2020 and beyond and updated emission limit values for key stationary and mobile sources in several technical annexes. The amendments entered into force on 7 October 2019.
National	
Airports National Policy Statement: new runway capacity and infrastructure at airports in the South East of England (ANPS)[3]	The ANPS reaffirmed the Northwest Runway at Heathrow Airport as the government's preferred scheme for meeting additional capacity, combined with a significant package of measures to address its environmental and community impacts. The stated requirement of the air quality assessment, as part of the ES, is to demonstrate to the Secretary of State that the construction and operation of the Northwest Runway will not affect the UK's ability to comply with legal obligations, with specific reference to Air Quality Standards Regulations 2010 and National Emission Ceilings Regulations 2002 (as amended)[4] [since revoked by the National Emission Ceilings Regulations 2018].
Proposed draft revision to the Airports National Policy Statement: To be known as the Heathrow Expansion National Policy Statement (HENPS)	The draft HENPS highlights that ensuring that Heathrow expansion meets the UK's air quality obligations is one of the Government's four tests. In addition to limit values set out in the Air Quality Standards Regulations 2010 and obligations set out under National Emissions Ceilings Regulations 2018, it identifies the need to consider $PM_{2.5}$ targets

[3] Department for Transport, Airports National Policy Statement: new runway capacity and infrastructure at airports in the South East of England (ANPS), 2018
[4] UK National Emission Ceilings Regulations 2002, 2003

Relevant Policy	Relevance to assessment
	set under the Environment Act 2021 and The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023. The draft HENPS proposes that the ES for air quality should assess the following: "Existing air quality emissions and concentrations; Forecasts of emissions and concentrations of all relevant air quality pollutants at the time of opening, (a) assuming that the scheme is not built (the 'future baseline'), and (b) taking account of the impact of the scheme, including when at full capacity; Current evidence and assessment in relation to the impact of UFPs [Ultrafine Particles]; Any likely significant air quality effects of the scheme, their mitigation and any residual likely effects, distinguishing between those applicable to the construction and operation of the scheme and taking account of the impact of any road traffic generated by the project; The modelled emissions, concentration change and absolute concentrations of the proposed protect after mitigation methods have been applied; Any potential impacts on nearby designated habitats from air pollutants; The proximity and nature of nearby receptors which could be impacted, including those more sensitive to poor air quality; and Any cumulative effects in respect of air quality including in respect of health."
National Networks National Policy Statement (NPS) (January 2024)	This NPS does not cover airports. However, the nature of the DCO means that the National Networks National Policy Statement could apply to parts of the scheme. The air quality assessment requirements are similar to those of the ANPS / draft HENPS. Where the impacts of the project (both on and off-scheme) are likely to have significant air quality effects, the applicant should undertake an assessment as part of their DCO application. These are described as air quality effects: in relation to meeting environmental

Relevant Policy	Relevance to assessment
	assessment requirement; affecting the UK's ability to comply with the Air Quality Standards Regulations 2010; or impacting the relevant local authority's ability to comply with the Air Quality (England) Regulations 2000. In addition, the application should consider The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 by following available interim guidance.
Aviation Policy Framework 2013	For air quality, the policy states: "Airports are large generators of surface transport journeys and as such share a responsibility to minimise the air quality impact of these operations. The Government expects them to take this responsibility seriously and to work with the Government, its agencies and local authorities to improve air quality."
National Planning Policy Framework (NPPF) 2026	Whilst the NPPF is not part of the statutory decision-making framework for NSIPs, it can be considered an important and relevant matter. Policy P3(2)(c) of the NPPF states that development proposals should: *"Sustain and contribute to compliance with relevant limit values or national objectives and targets for air pollutants including $PM_{2.5}$. Development proposals should take account of Air Quality Management Areas and be consistent with the objectives of relevant Air Quality Action Plans, Clean Air Plans and Local Air Quality Strategies."* With regard to odour, alongside air quality, the NPPF states that the effects of pollution on the potential sensitivity of the site, or the wider area, to impacts from the development should be taken into account. Policy DP3 (2)(c), Key principles for well-designed places, states that relevant aspects of the following principle should be reflected: *"… incorporate and/or connect to a network of high quality, accessible, multi-functional*

Relevant Policy	Relevance to assessment
	green infrastructure to provide opportunities for recreation and healthy living, strengthen habitats, improve climate change resilience and improve air and water quality." Policy TR7 (2), Marine ports, airports and other aviation facilities, states: *"All development proposals to which this policy applies should have an acceptable environmental effect in terms of noise, air quality, greenhouse gas emissions, the transport network, landscape, visual and marine impacts, taking into account any applicable standards and relevant national decision-making policies in this Framework"*
Air Quality Strategy: Framework for local authority delivery (2023)	The Environment Act 1995 as amended by the Environment Act 2021 requires the publication of an Air Quality Strategy setting out air quality standards, objectives, and measures for improving ambient air quality every five years. The 2023 Air Quality Strategy is intended for local authorities in England, including London, and is of relevance for duties under the Local Air Quality Management process. The Strategy identifies three pollutants of particular concern which have the majority of impact and towards which most actions are expected to be directed: fine particulate matter ($PM_{2.5}$), nitrogen oxides (NO_x) and ammonia (NH_3).
Environmental Improvement Plan (EIP) 2025	As required by the Environment Act 2021, EIP 2025 is a strategic framework for improving England's natural environment up to 2043. It has revised the previous EIP and set new interim targets for the statutory Environment Act 2021 targets. For air quality, the plan identifies national government actions to meet commitments for emissions reductions, deliver statutory air quality levels set out in Air Quality Standards Regulations and meet Environment Act 2021 interim targets. The interim targets set by the EIP are an annual mean $PM_{2.5}$ concentration of 10 µg/m^3 and a

Relevant Policy	Relevance to assessment
	population exposure target of 30% compared to 2018, to be achieved by December 2030.
Jet-Zero Strategy(July 2022)	The Jet Zero Strategy sets out the Government's plan for delivering net zero by 2050 with an interim target of 19.3 $MtCO_2e$ by the 2050 deadline. Stated policy measures include addressing non-CO_2 impacts that also affect climate and local air quality. A particular focus is placed on increasing understanding of the exact scale and impacts of such factors.
Regional	
The London Plan (2021)	Policy SI 1, Improving air quality, is the key policy for air quality. Part B1 of the policy states that development proposals should not: *"a) lead to further deterioration of existing poor air quality* *b) create any new areas that exceed air quality limits, or delay the date at which compliance will be achieved in areas that are currently in exceedance of legal limits* *c) create unacceptable risk of high levels of exposure to poor air quality."* For major developments, an Air Quality Assessment is required to determine the way in which the requirements of B1 are met. There is a minimum requirement for development proposals to be at least Air Quality Neutral, and large-scale development proposals subject to EIA "*should consider how local air quality can be improved across the area of the proposal as part of an air quality positive approach*." Part D of the policy summarises construction and demolition phase requirements for development proposals, which includes a plan for complying with the Non-Road Mobile Machinery (NRMM) Low Emission Zone and emission reduction through best practice. Policy T8 Aviation, states (paragraph 10.8.5):

Relevant Policy	Relevance to assessment
	*"Any airport expansion proposals should not worsen existing **air quality** or contribute to exceedance of air quality limits, nor should they seek to claim or utilise air quality improvements resulting from unrelated Mayoral, local or national policies and actions. Airport expansion should also incorporate air quality positive principles to minimise operational and construction impacts."* Policy GG3, Creating a healthy city, states: *"To improve Londoners' health and reduce health inequalities, those involved in planning and development must … (F) seek to improve London's air quality, reduce public exposure to poor air quality and minimise inequalities in levels of exposure to air pollution"* Policy D3, Optimising site capacity through the design-led approach, states (paragraph 3.3.9): *"Measures to design out exposure to poor air quality and noise from both external and internal sources should be integral to development proposals and be considered early in the design process."*
The Draft London Plan 2026	The Draft London Plan 2026, currently under consultation, states in Policy GLE9 Aviation: *"Proposals for expansion at Heathrow and other airports should be refused unless no unacceptable environmental, transport, and congestion impacts are demonstrated"* In Policy GHR10 poor air quality is defined in relation to the fourth interim WHO guideline for $PM_{2.5}$ (10 ug/m^3), to be achieved by 2030, and national air quality objectives for PM_{10} and NO_2. In addition, there is a Mayoral ambition to: *"…continue to reduce harmful emissions and exposure to them beyond current statutory air quality objectives so as to reduce the risk*

Relevant Policy	Relevance to assessment
	of harm to human health and protected habitats" Requirements for developments to be Air Quality Neutral or Air Quality Positive, and compliance with NRMM Low Emission Zone for construction and demolition phases are retained in the Draft London Plan.
London Environment Strategy (LES) (2018)	For air quality, the LES identifies two pollutants of specific concern: particulate matter (PM_{10}, $PM_{2.5}$ and black carbon) and NO_2. The actions identified for improving London's air quality are: reducing exposure and tackling health; achieving legal compliance with UK and EU limits as soon as possible; and establishing and achieving new, tighter air quality targets, with specific reference to World Health Organisation (WHO) guidelines values for PM_{10} and $PM_{2.5}$.
Local	
Hillingdon Local Plan: Part 1 – Strategic Policies (adopted November 2012)	Policy EM8: Land, Water, Air and Noise – seeks to protect local air quality and ensure protection of receptors. Policy BE1: Built Environment – seeks 'to protect the amenity of surrounding land and buildings, particularly residential properties'.
Hillingdon Air Quality Action Plan (AQAP) 2019-2024[5]	Hillingdon's current AQAP ran until 2024. The draft AQAP 2025-2030 was approved by Hillingdon Council on 10th April 2025 and is scheduled to go through stakeholder and resident consultation[6]. The AQAP 2019-2024 aimed to reduce public exposure to air pollution, with priority for Air Quality Focus Areas. With reference to WHO guideline values, it highlights that there is currently no safe level for $PM_{2.5}$ and NO_2, and therefore the Council's ambition is to reduce concentrations as much as possible.

[5] London Borough of Hillingdon (2019). Air Quality Action Plan, 2019-2024. May 2019.
[6] London Borough of Hillingdon (2025). Council approves plans to tackle air pollution. 11th April 2025. Available at: https://pre.hillingdon.gov.uk/news/article/71/council-approves-plans-to-tackle-air-pollution (accessed 27th July 2026).

Relevant Policy	Relevance to assessment
	The pre-consultation draft of AQAP 2025-2030[7] identifies UFPs as an area of emerging concern for the Council, due to relatively limited scientific understanding of the impacts and airports as a major source of UFPs.
Hounslow Local Plan 2015 - 2030 Volume 1 (adopted 15th September 2015)	Policy EQ4 Air Quality - seeks to reduce the potential air quality impacts of development and promote improved air quality conditions across the borough, in line with the Air Quality Action Plan.
Hounslow Local Plan 2020 – 2041 Proposed Submission Version (Regulation 19), July 2024	Policy EQ4 Air Quality includes an air quality positive approach, as part of its approach to reduce potential air quality impacts of development and promote improved air quality conditions across the borough. In line with the London Plan, developments are expected to Air Quality Neutral, as a minimum, and large-scale developments and masterplans should demonstrate how an Air Quality Positive approach has been taken.
Hounslow Air Quality Action Plan 2023 - 2028[8]	Hounslow AQAP recognising the need to collaborate with community groups, regional and national government agencies and businesses that have a significant influence on the Boroughs air quality, specifically identifying TfL, Heathrow Airport and National Highways. In 2021, the borough adopted 2005 WHO guideline values for NO_2, PM_{10} and $PM_{2.5}$ as local targets.
Slough Air Quality Action Plan (2024 – 2028)[9]	In order to reduce exposure to poor air quality in order to improve health, actions within the AQAP were developed to achieve two aims: 1. *Achieve a boroughwide NO_2 target concentration of <35 µg/m³ by 2028*

[7] London Borough of Hillingdon (2025). Air Quality Action Plan, 2025-2030 Pre Consultation Draft. Available at https://modgov.hillingdon.gov.uk/documents/s63525/Draft+Air+Quality+Action+Plan+-+Pre+Consultation+Version.pdf (accessed 27th July 2026).
[8] London Borough of Hounslow (2023). Hounslow Air Quality Action Plan 2023 – 2028. November 2023. Available at: https://www.hounslow.gov.uk/downloads/file/10725/air-quality-action-plan-2023 (accessed 15th September 2026)
[9] Slough Borough Council (2024). Air Quality Action Plan (2024 – 2028). October 2024. Available at: https://www.slough.gov.uk/downloads/file/5582/air-quality-action-plan-2024-2028. [Accessed 15/09/2026]

Relevant Policy	Relevance to assessment
	2. *Revoke all of Slough Borough Council's AQMAs by 2030*
Spelthorne Local Plan 2024 – 2039/40	Air quality is considered in Policy E4: Environmental Protection (1) – (4). The policies require developments to compile with national policy, guidance and most up-to-date AQAP. The conditions for a development to require an air quality assessment are defined and the requirements for mitigation are identified.
Spelthorne Air Quality Action Plan 2024[10]	The 2024 AQAP outlines actions to improve air quality in Spelthorne between 2024 and 2029. Five priorities identified are: • *"to maintain air pollutant concentrations below current air quality objectives and where practicable, reduce emissions further to work towards WHO Guideline Values"* • Work collaboratively with Surrey County Council on delivery of wider transport measures • Work collaboratively with Heathrow Airport to address airport operation emissions • Collaboration with other partners (Surrey boroughs, London Boroughs, National Highways and Environment Agency) to reduce emissions of particulate matter and NO_x. • Annual reporting to Defra
South Bucks District Local Plan 1999 (consolidated 2007 and 2011)	Policy EP10 - Air Pollution is removed in the consolidated Local Plan. Policy TR5 – Accesses, Highway Works and Traffic Generation, states that: *"Where proposals would have a detrimental effect on the amenities of nearby properties*

[10] Spelthorne Borough Council (2024). Air Quality Action Plan 2024. December 2024. Available at: https://www.spelthorne.gov.uk/sites/default/files/migration/media/27415/Air-Quality-Action-Plan-2024-2029/pdf/Air_Quality_Action_Plan.pdf [Accessed 15/09/2026]

Relevant Policy	Relevance to assessment
	or on the quality or character of the local environment they will not be permitted."
Draft Local Plan for Buckinghamshire 2024 – 2045 (Regulation 19 Publication Version), July 2024	Air quality is addressed in development management policy NE21 – Pollution, air quality and contaminated land. The policy requires developments to prove through air quality impact assessment that the proposal would not exceed National Air Quality Strategy Standards and would not be materially affected by existing and continuous poor air quality. Proposals that significantly impact on air quality within AQMAs need to demonstrate *" …whether the proposed use is appropriate, and how it would avoid, reduce and mitigate local pollutant emissions."* In addition, developments requiring HRA or EIA should consider measures to minimise air pollution impacts on SSSIs and Habitats Sites (defined as SPAs, SACs, Ramsar and compensatory measures sites) during the design process and how air quality improvements have informed design choices.
Ealing's Local Plan – Final Proposals (Regulation 19), February 2024	Covering 2024 – 2039, Ealing's Local Plan addresses air quality principally through Policies SP2.2 (Climate action) and SP3.3 (Healthy lives). The key performance indicator for air quality is the proportion of developments which are Air Quality Neutral or Air Quality Positive.
Richmond Upon Thames Local Plan (2024 to 2039), October 2025	Paragraph 2.44 states: *"The Council, in line with the Mayor of London, strongly opposes any further expansion at Heathrow and supports measures to minimise the impacts of Heathrow, particularly on traffic, noise and air quality".*
Runnymede 2030 Local Plan, Adopted 16th July 2020	Air quality is considered in Policy EE1: Townscape and Landscape Quality. Paragraph 7.13 states: *"The most feasible actions include requiring certain types of development to undertake an*

Relevant Policy	Relevance to assessment
	Air Quality Assessment if it is likely to cause a deterioration in local air quality or is within or near to an AQMA." The Local Transport Plan 3 and Runnymede Air Quality Action Plan are identified as sources for identifying suitable measures in relation to air quality.
Windsor and Maidenhead Borough Local Plan 2013 – 2033. Adopted 8th February 2022.	Policy EP2 includes the requirements for developments to: contain appropriate mitigation for proposals which may result in significant increases in air pollution; show regard for the UK Air Quality Strategy; and consider air quality impacts at the earliest possible stage and assessment should include cumulative impacts

Table 5-3: Guidance relevant to the Air Quality and Odour assessment

Relevant Guidance	Relevance to assessment
International	
ICAO local air quality assessment guidance	International Civil Aviation Organization 2023. Doc 9889, Air Quality Manual Third Edition. 01/03/2023. Provides practical guidance to ICAO member states on assessing and managing air quality at airports.
National	
UK CAA's CAP 1616i guidance	UK Civil Aviation Authority 2023. Environmental Assessment Requirements and Guidance for Airspace Change Proposal. First published November 2023. https://www.caa.co.uk/publication/download/20867 Provides guidance for the environmental assessment of proposed airspace changes in the UK.

Relevant Guidance	Relevance to assessment
National Highways Design Manual for Roads and Bridges, Sustainability & Environment Appraisal	National Highways 2024.Design Manual for Roads and Bridges, Sustainability & Environment Appraisal LA 105 Air quality (vertical barriers). Version 0.1.0 June 2024. Provides guidance for the assessment of air quality impacts of road traffic schemes.
IAQM demolition and construction assessment guidance	Institute of Air Quality Management (IAQM). Assessment of dust from demolition and construction (2024 V2.2). January 2024. Best practice guidance for construction dust impact assessments, dust management plans, and management and mitigation of impacts.
IAQM odour guidance	Institute of Air Quality Management (IAQM). Guidance on the assessment of odour for planning, version 1.1, July 2018. Best practice guidance for odour assessments for planning.
EA Odour Management: How to comply with your environmental permit	Environment Agency (EA). Odour management: how to comply with your environmental permit, December 2025. Guidance for odour management and assessment of major sources.
Defra LAQM guidance	Department for Environment Food and Rural Affairs 2025. Local Air Quality Management Technical Guidance (TG22). May 2025. Local authority guidance for air quality management including guidance on air quality assessment using dispersion modelling.
Regional / Local	
London Plan guidance: Air Quality Positive	GLA 2023. London Plan Guidance: Air Quality Positive. February 2023. Guidance for Air Quality Positive assessments, in line with the London Plan.

Relevant Guidance	Relevance to assessment
London Plan guidance: Air Quality Neutral	GLA 2023. London Plan Guidance: Air Quality Neutral. February 2023. Guidance for Air Quality Neutral assessments, in line with the London Plan.
GLA guidance on The Control of Dust and Emissions during Construction and Demolition SPG	Greater London Authority 2014. *The Control of Dust and Emissions during Construction and Demolition SPG*. July 2014. London best practice guidance for construction dust assessment and management.

5.3 Stakeholder Engagement

5.3.1.1 Initial consultation has been undertaken as discussed within **Chapter 4: Approach to EIA**. Heathrow West will deliver technical consultation letters to relevant authorities, stakeholders and communities during EIA Scoping, in regard to Air Quality.

5.3.1.2 Stakeholder engagement is planned with primary consultees with statutory remit, including the Environment Agency, Natural England, Thames London, Greater London Authority and relevant Local Planning Authorities.

5.3.1.3 Consultation with Natural England is proposed to discuss the approach on assessment of potential effects, including potential impacts on designated sites from air pollutants. See **Chapter 6: Biodiversity** for further details.

5.4 Study Area

5.4.1 Air Quality Study Area

5.4.1.1 The study area for air quality is determined by the following factors:

- Extent of impact of emissions from airport activities;
- Extent of impact of emissions from surface access;
- Location of areas of poor air quality for human health impact;
- Location of ecological receptors sensitive to air quality impacts.

5.4.1.2 The UK CAA's CAP 1616i guidance[11] states that aircraft above a height of 1,000 feet (approximately 305m) above aerodrome level (AAL) are unlikely to have a significant impact on local air quality. Based on aircraft climb and descent angles,

[11] UK Civil Aviation Authority 2023. Environmental Assessment Requirements and Guidance for Airspace Change Proposal. First published November 2023. Available at: https://www.caa.co.uk/publication/download/20867 [Last accessed 20/07/2026]

this guidance indicates a study area of between 1km and 6km from the runway, when considering the impact of runway aircraft emissions.

5.4.1.3 Previous dispersion modelling for airport expansion scenarios on behalf of the Airports Commission[12] used a "Principal Study Area" of 2km from the airport boundary. Using this approach for the Proposed Development implies a minimum study area of approximately 11km by 8km.

5.4.1.4 This minimum area is extended to include all major roads included the Scoping Boundary, specifically along the A312 to the north and south of the airport, A315 east of the airport and the A4 west of the airport. The resulting extent of the core study area for air quality is 14km x 11km.

5.4.1.5 In addition to Hillingdon, the core study area falls within the local authority areas of Hounslow, Spelthorne, Slough, Ealing, Richmond upon Thames, Runnymede, Windsor and Maidenhead, and Buckinghamshire. The core study area is shown in **Figure 5.1**.

5.4.1.6 Within the core study area, the air quality impact of the airport will be determined by changes in both airport emissions and road transport emissions. Air quality modelling will require detailed consideration of emissions from aircraft and from other sources within the airport boundary. Note, the assessment will account for aircraft emissions at a height of up to 3,000 feet AAL, in line with ICAO local air quality assessment guidance[13].

5.4.1.7 Beyond the core study area, the impact of the Proposed Development will be determined principally by changes in surface access emissions, and therefore air quality modelling beyond the core study area will focus on road transport emissions.

5.4.1.8 For receptors beyond the core study area, due to the distance of aircraft sources, a less detailed representation of aircraft emissions will be used. The proposed modelling approaches for the core and wider study areas are described in **Appendix 5.1.**

5.4.1.9 The interim wider study area for air quality extends to approximately 31km x 24km. This extent is based on the expected road traffic changes due to the Proposed Development in operation and the location of areas sensitive to air quality. This area will be reviewed as further details on the likely traffic impacts at sensitive receptors emerge. The interim wider study area is shown in **Figure 5.1.**

5.4.1.10 The study area for road traffic impacts of the Proposed Development is discussed in **Chapter 21: Traffic and Transport**. The area impacted by changes in road traffic

[12] Jacobs 2015. Module 6: Air Quality Local Assessment Detailed Emissions Inventory and Dispersion Modelling, Prepared for the Airports Commission. May 2015
[13] International Civil Aviation Organization 2023. Doc 9889, Air Quality Manual Third Edition. 01/03/2023

emissions will be determined by National Highways[14] scoping criteria for the changes between the do something and do minimum traffic for the opening year. These criteria are:

- Annual Average Daily Traffic (AADT) ≥ 1,000; or
- Heavy Duty Vehicle (HDV) AADT ≥ 200; or
- a change in speed band; or
- a change in carriageway alignment by ≥ 5m.

5.4.1.11 The National Highways guidance states that the traffic assessment area should cover areas likely to be sensitive to changes in air quality, where there are: monitored exceedances of air quality thresholds; AQMAs; areas identified by Defra as exceeding EU limit values; and/or designated habitats.

5.4.1.12 The guidance defines the affected road network (ARN) as adjoining roads within 200m of the roads triggering the screening criteria and states that air quality modelling should consider sensitive receptors within 200m of the ARN.

5.4.1.13 Details of baseline air quality are provided in **Appendix 5.1** Recent automatic monitoring (for the years 2024 and 2025) shows compliance with limit values for NO_2, PM_{10} and $PM_{2.5}$, shown in **Table 5-5**. The environmental target value for annual mean $PM_{2.5}$ is met at all monitoring sites considered, i.e. those that fall within the wider study area and within the areas of local authorities within the core study area, see **5.6.1.8**. However, local authority reanalysis of sites with low data capture, as part of their LAQM duties, may reveal locations exceeding the target value.

5.4.1.14 For compliance with $PM_{2.5}$ targets, air quality analysis to support the draft HENPS[15] recommends consideration of the potential for effects close to Hounslow monitors HS4 and HS9, approximately 11km and 2km, respectively, from the boundary of Heathrow Airport.

5.4.1.15 A review of $PM_{2.5}$ monitoring in **Section 5.6** discusses the relevance of air pollution concentrations in the vicinity of the HS4 monitor for assessing the air quality impact of the Proposed Development. In the interim, the wider study extends to an area around Chiswick High Street, where the HS4 monitor is located.

5.4.1.16 An independent Statement to Inform Habitats Regulations Assessment (HRA) in support of the draft HENPS[16] identified eight designated sites (across six geographical areas) for which Likely Significant Effects for air quality could not be ruled out. These designated sites are up to 10km from the Scoping Boundary. In the interim, the wider study extent is determined by the locations of: Burnham Beeches SAC (northern extent), Wimbledon Common SAC (eastern extent);

[14] National Highways 2024.Design Manual for Roads and Bridges, Sustainability & Environment Appraisal LA 105 Air quality (vertical barriers). Version 0.1.0 June 2024.
[15] AECOM 2026. Air Quality Support for Review of ANPS: Review of $PM_{2.5}$ Concentration Target and $PM_{2.5}$ Exposure Reduction Target. Version 4, June 2026.
[16] AECOM 2026. Draft Heathrow Expansion National Policy Statement: Habitats Regulations Assessment. Version 3, June 2026.

Thames Basin Heaths SPA (southern extent); and Windsor Forest Great Park SAC (western extent).

5.4.1.17 The wider study extent will be reviewed and updated based on the following planned assessments for the Proposed Development: screening and appropriate assessment for HRA, see **Chapter 6: Biodiversity**; and road traffic modelling, see **Chapter 21: Traffic and Transport**.

5.4.1.18 The study area for construction dust impacts will be determined from the location of construction sites, based on IAQM demolition and construction assessment guidance[17]. The IAQM screening criteria are for: construction sites with a 'human receptor' within 250m of the site boundary; an "ecological receptor" within 50m of the site boundary; and/or human or ecological receptors within 50m of routes used by construction vehicles on public highways, up to 250m from the site entrances.

5.4.2 Odour Study Area

5.4.2.1 The study area for odour is determined by the following factors:

- Scoping Boundary and Proposed Development layout;
- Extent of impact of odour emissions from general airport activities;
- Extent of impact of odour emissions from static airport emissions sources;
- Location of human receptors sensitive to odour impacts.

5.4.2.2 The study area will be determined using a source-pathway-receptor approach, encompassing sensitive receptors that could reasonably be affected by odour emissions from the Site. No fixed study area is prescribed within IAQM odour guidance[18], and the extent has therefore been determined using professional judgement and will be refined as the assessment progresses, taking into account data from odour surveys. Nonetheless, it is anticipated that the study area will focus on areas inside the Scoping Boundary, the existing Airport and within approximately 300m of these.

5.5 Sources of Data used in Scoping

5.5.1 Baseline Sources

5.5.1.1 Concentrations of NO_2, PM_{10} and $PM_{2.5}$ are measured across study area using automatic air quality monitors, from Defra's AURN[19] and locally managed

[17] Institute of Air Quality Management (IAQM). Assessment of dust from demolition and construction (2024 V2.2). January 2024

[18] Institute of Air Quality Management (IAQM). Guidance on the assessment of odour for planning, version 1.1, July 2018.

[19] Department for Environment Food and Rural Affairs 2026. Automatic Urban and Rural Network (AURN). Available at: https://uk-air.defra.gov.uk/networks/network-info?view=aurn [Accessed 6/8/2026]

networks[20,21,22]. Automatic monitors provide hourly measurements of air quality. They are the most accurate type of air quality monitors; note that instrument and data quality practices will differ between networks.

5.5.1.2 Local authorities also measure air quality using passive samplers (diffusion tubes) and air quality sensors. These lower cost monitoring methods provide indicative measurements of air quality. Since there is a relatively dense network of automatic monitors in the study area, measurements from these indicative methods have not been considered for scoping of baseline conditions. For completeness, measurements from local authority diffusion tube networks will be summarised in the Environment Statement.

5.5.1.3 UFPs are measured at four Defra-managed sites as part of the Particle Concentrations and Numbers Network[23]. Each of these sites represent different monitoring environments, including a site near Gatwick Airport.

5.5.1.4 As part of the Heathrow Airwatch network, UFPs are measured at the LHR2 site, within the Heathrow Airport boundary. This dataset is currently not available in the public domain and will therefore be requested from the data owners. The Heathrow Airwatch Partnership consists of HAL, London Boroughs of Hillingdon and Hounslow, and Slough and Spelthorne Borough Councils.

5.5.1.5 UFP monitoring data from UK and Heathrow sites will be analysed and summarised in the ES, as part of the evidence and assessment in the relation to the impact of UFPs. The analysis will focus on data from 2023 onwards, due to a change in measurement methodology for Defra managed sites in late 2022 / early 2023.

5.5.1.6 The Pollution Climate Mapping (PCM) model is used by Defra and the Devolved Governments to fulfil part of the UK's EU Directive (2008/50/EC) requirements to report on the concentrations of particular pollutants in the atmosphere. The PCM provides output on a 1 km x 1 km grid of background concentrations and for approximately 9,000 representative road links. The latest versions of the PCM model are for a base year of 2023 for roadside concentrations[24] of NO_2 and $PM_{2.5}$, and for a base year of 2024 for 1km x 1 km background concentrations[25] of PM_{10}, $PM_{2.5}$, NO_x, NO_2, carbon monoxide, sulphur dioxide, ozone and benzene.

[20] WSP 2026. Heathrow Airwatch. Available at https://www.heathrowairwatch.org.uk/ [Accessed 6/8/2026]
[21] Environment Research Group, Imperial College 2026. London Air Quality Network. Available at: https://www.londonair.org.uk/LondonAir/Default.aspx [Accessed 6/8/2026]
[22] Ricardo Energy and Environment (WSP) 2026. Air Quality in England. Available at: https://www.airqualityengland.co.uk/ [Accessed 6/8/2026]
[23] Department for Environment Food and Rural Affairs 2026. Particle Concentrations and Numbers Network. Available at: https://uk-air.defra.gov.uk/networks/network-info?view=particle [Accessed 6/8/2026]
[24] Department for Environment Food and Rural Affairs 2026. 2023 NO_2 and PM Base Year Data. Available at: https://uk-air.defra.gov.uk/data/modelled-data?base_year=2023 [Accessed 6/8/2026]
[25] Department for Environment Food and Rural Affairs 2026. Modelled background pollution data. Available at: https://uk-air.defra.gov.uk/data/pcm-data [Accessed 6/8/2026]

5.5.1.7 The PCM model is also used to generate 1km x 1km background maps to assist local authorities in their LAQM duties. The current version of the LAQM background maps[26] are for a reference year of 2021 for concentrations of NO_x, NO_2, PM_{10} and $PM_{2.5}$, with projections up to 2040. The Defra background maps include sectoral breakdown of NO_x, PM_{10} and $PM_{2.5}$ concentrations.

5.5.1.8 The PCM model is based on emissions data from the National Atmospheric Emissions Inventory (NAEI)[27]. The NAEI is compiled on behalf of the Department of Energy Security and Net Zero (DESNZ) and fulfils UK's reporting requirements for CLRTAP and NECR. The NAEI provides 1km x 1km sectoral emission for a base year of 2023.

5.5.1.9 The London Atmospheric Emissions Inventory (LAEI)[28] is produced on behalf of the GLA, to support the development of air quality policies by the GLA and London boroughs. The LAEI contains emissions data and pollution maps for Greater London. The current version is for a base year of 2022 and includes projections for 2025 and 2030. The LAEI includes 20 m resolution pollution maps for the whole of London.

5.5.1.10 Baseline datasets for designated habitats will be taken from the APIS[29] website, which provides site-specific data regarding the concentrations and deposition rates of pollutants at designated sites.

5.5.1.11 No baseline PM monitoring or dust deposition surveys have been undertaken in the vicinity of proposed construction areas. PM monitoring of baseline dust deposition will be undertaken before the construction programme commences.

5.5.1.12 Data sources for determining baseline air quality conditions are summarised in **Table 5-4.**

Table 5-4: Data sources used for scoping

Source	Relevance to the assessment
Defra AURN network	Baseline air quality monitoring of NO_2 (and NO_x), PM_{10} and $PM_{2.5}$ across the study area.

[26] Department for Environment Food and Rural Affairs 2026. Background Mapping data for local authorities – 2021. Available at: https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2021 [Accessed 6/8/2026]
[27] Department of Energy Security and Net Zero 2026. National Atmospheric Emissions Inventory. Available at https://naei.energysecurity.gov.uk/ [Accessed 6/8/2026]
[28] Greater London Authority and Transport for London 2026. London Atmospheric Emissions Inventory LAEI 2022. Available at: https://data.london.gov.uk/dataset/london-atmospheric-emissions-inventory-laei-2022-2lg5g [Accessed 6/8/2026]
[29] Air Pollution Information System (APIS). https://www.apis.ac.uk [Accessed 26/8/2026]

Source	Relevance to the assessment
Heathrow Airwatch	Baseline air quality monitoring of NO_2 (and NO_x), PM_{10} and $PM_{2.5}$ across the study area.
London Air Quality Network	Baseline air quality monitoring of NO_2 (and NO_x), PM_{10} and $PM_{2.5}$ across the study area.
Air Quality in England	Baseline air quality monitoring of NO_2 (and NO_x), PM_{10} and $PM_{2.5}$ across the study area.
Defra PCM datasets	Baseline modelled concentrations at roadside and background locations across the study area.
Defra background maps	Baseline and future year modelled background concentrations of NO_x, NO_2, PM_{10} and $PM_{2.5}$ across study area, including sectoral breakdown.
London Atmospheric Emissions Inventory (LAEI) 2022	Baseline and future year emissions and modelled concentrations for study area within Greater London.
National Atmospheric Emissions Inventory (NAEI)	Baseline emissions data for study area, by sector.

5.5.1.13 For human health impacts, the pollutants of interest for assessment are NO_2, PM_{10}, $PM_{2.5}$ and UFPs. With the exception of UFPs, limit values and target values for these pollutants are set out in the Air Quality Standards Regulation 2010 and The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023, as presented in **Table 5-5**.

5.5.1.14 Air Quality Standards Regulation 2010 target values for $PM_{2.5}$ are omitted from the table. This is because the target value for annual mean concentrations of $PM_{2.5}$ is less stringent than the equivalent limit value added with 2020 amendments. The national exposure target refers to the reduction target between 2010 and 2020.

5.5.1.15 The target values within The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 have target dates of 2040. Interim targets set by the EIP 2025 are an annual mean $PM_{2.5}$ concentration of 10 $\mu g/m^3$ (same as the 2040 target value) and a population exposure reduction target of 30% to be achieved by 2030.

5.5.1.16 Annual mean limit and target values are relevant for long-term exposure. Box 1-1 of the Defra LAQM guidance TG(22) includes the following as relevant locations for long-term exposure: building facades of residential properties, schools, hospitals and care homes.

5.5.1.17 Daily and hourly mean limit values are relevant for short-term exposure. In addition to all locations relevant for long-term exposure, the Defra guidance identifies hotels and gardens of residential properties as relevant for daily mean limit value. As well as these locations, the hourly mean limit value is relevant for areas where members of the public might expect to spend an hour or longer, such as pavements of busy shopping streets and parts of car parks, bus stations and railways stations.

5.5.1.18 Currently, there are no legally binding objective concentrations for UFPs.

5.5.1.19 Air Quality Standards Regulation 2010 limit and target values for the protection of human health for SO_2, lead, benzene, carbon monoxide, arsenic, cadmium, nickel and benzo(a)pyrene are omitted from the table, since these pollutants are scoped out of the assessment. More details are provided in **Section 5.8**.

Table 5-5: Relevant limit values and target values for the protection of human health from Air Quality Standards Regulation 2010 [*AQS 2010* in table] and The Environmental Targets (Fine Particulate Matter) (England) 2023 [*ET 2023* in table]

Pollutant	Averaging period	Limit / Target Value	Regulations
NO_2	One hour	200 µg/m^3 not to be exceeded more than 18 times a calendar year	AQS 2010 limit value
	Calendar year	40 µg/m^3	AQS 2010 limit value
PM_{10}	One day	50 µg/m^3 not to be exceeded more than 35 times a calendar year	AQS 2010 limit value
	Calendar year	40 µg/m^3	AQS 2010 limit value
$PM_{2.5}$	Calendar year	20 µg/m^3	AQS 2010 limit value
	Annual mean [calendar year]	10 µg/m^3	ET 2023 target value

Pollutant	Averaging period	Limit / Target Value	Regulations
	[Annual mean]	35% reduction in population exposure as compared with the average population exposure in the baseline period (3-year average for 2016 -2018)	ET 2023 target value

5.5.1.20 The pollutants of interest for ecological receptors are NO_x, SO_2 and NH_3. Critical levels for air concentrations, at designated habitats, are provided in **Table 5-6.** Critical loads for nitrogen and acid deposition are site- and habitat-specific.

Table 5-6: Relevant critical levels for the protection of vegetation and ecosystems from Air Quality Standards Regulation 2010 [AQS 2010 in table]

Pollutant	Receptor	Averaging period	Critical level	Regulations
NO_x	All vegetation	Annual mean Daily mean	30 µg/m^3 75 µg/m^3	AQS 2010
SO_2	Forests and natural and semi-natural vegetation	Annual and winter[30] means	20 µg/m^3	AQS 2010
	Sensitive lichens	Annual mean	10 µg/m^3	
NH_3	Higher plants	Annual mean	3 µg/m^3	AQS 2010
	Lichens and bryophytes (where a key part of ecosystem integrity)		1 µg/m^3	

5.5.1.21 Air quality assessment of the construction and operational phases of the Proposed Development will be based on detailed air quality modelling, to determine compliance with statutory limit and target values, and any potential impacts on nearby designated habitats. The methodology for modelling will be based on the

[30] October to March

recommendations of PSDH[31], representing best practice for airport assessments, and in line with previous airport expansion assessments for Heathrow Airport. Details of the proposed methodology are provided in **Section 5.9.**

5.5.1.22 A construction dust assessment will be carried out in line with IAQM guidance[17] and GLA guidance on The Control of Dust and Emissions during Construction and Demolition SPG[32].

5.5.1.23 No baseline studies for odour have been completed thus far. Details of the data to be collected for description of the baseline are summarised in **Section 5.9**.

5.6 Baseline Conditions

5.6.1 Air Quality Baseline Description

5.6.1.1 The main sources of air pollution in the vicinity of the Proposed Development are Heathrow Airport and major roads, including the strategic network serving the airport. There are also significant contributions from other sources, such as commercial and domestic combustion, industry and long-range transport of pollutants. The study areas include a number of AQMAs and Air Quality Focus Areas (AQFAs).

5.6.1.2 Details of AQMAs declared by those local authorities which fall within the core study area for air quality are summarised in **Table 5-8**. The designations identify where assessment by local authorities indicates that objectives from the Air Quality Standards Regulations 2010 could potentially be exceeded. The declaration of an AQMA requires the local authority to implement an AQAP.

5.6.1.3 The draft HENPS reiterates that any proposed scheme for Heathrow Airport expansion must not impact on the UK's ability to comply with legal obligations for air quality. In addition, the draft HENPS identifies that developments should align with local authority AQAPs.

5.6.1.4 All of the listed AQMAs cite road transport as the source and all declarations include exceedance of the annual mean limit value for NO_2. The whole borough declarations for Ealing and Richmond upon Thames include the limit value for daily mean PM_{10}. The Runnymede M25 AQMA declaration includes limit values for annual mean PM_{10} and daily mean PM_{10}.

[31] Department for Transport 2006. *Project for the Sustainable Development Heathrow – Report of the Air Quality Technical Panels*. 19 July 2006. Available at: https://webarchive.nationalarchives.gov.uk/ukgwa/20071209144209/http://www.dft.gov.uk/pgr/aviation/environmentalissues/heathrowsustain/ [Accessed 4th August 2026]

[32] Greater London Authority 2014. *The Control of Dust and Emissions during Construction and Demolition SPG*. July 2014.

5.6.1.5 Air quality has improved significantly since these AQMAs were declared, primarily driven by reductions in road transport emissions. Revocation of the following AQMAs is being considered by local authorities:

- Slough AQMA No. 1;
- Slough AQMA No. 3 Extension;
- M25 AQMA (Runnymede);
- Addlestone AQMA (Runnymede).

Table 5-7: AQMAs within the core and wider study areas

Local authority	AQMA	AQMA location
Hillingdon	Hillingdon AQMA (NO_2)	Core & wider study areas
Hounslow	Hounslow AQMA (entire borough) (NO_2)	Core & wider study areas
Spelthorne	Spelthorne AQMA (NO_2)	Core & wider study areas
Slough	Slough AQMA No. 1 (NO_2) Slough AQMA No. 2 (NO_2) Slough AQMA No. 3 Extension (NO_2) Slough AQMA No. 4 (NO_2)	Core & wider study area Core study area Wider study area Wider study area
Buckinghamshire	South Bucks District Council AQMA No.2 (NO_2)	Core & wider study areas
Ealing	Ealing AQMA (entire borough) (NO_2 and PM_{10})	Core & wider study areas
Richmond upon Thames	Richmond AQMA (entire borough) (NO_2 and PM_{10})	Core & wider study areas
Windsor and Maidenhead	None	Not applicable
Runnymede	M25 AQMA (NO_2 and PM_{10}) Addlestone AQMA (NO_2)	Core & wider study areas Wider study area

5.6.1.6 For London boroughs which fall within the core study area, details of AQFAs from LAEI 2019 are included in **Table 5-8.**

5.6.1.7 AQFAs are areas identified as exceeding the limit value for annual mean NO_2 in 2019, where there was high human exposure. Analysis on behalf of GLA and TfL[33] has shown that population-weighted average NO_2 concentrations in London have fallen by 41% between 2019 and 2024.

Table 5-8: AQFAs within the core and wider study areas

Local authority	AQFA	AQFA location
Hillingdon	77 - A40 / South Ruislip	Wider study area
	78 - A40 / Long Lane	Wider study area
	79 - Swakeleys Road	Wider study area
	80 - Ossie Garvin to Southall Park	Core study area
	81 - Heathrow Area	Core study area
	82 - Hayes	Core study area
	83 - Uxbridge Road Corridor	Wider & wider study areas
	84 - Uxbridge Town Centre	Wider study area
	85 - West Drayton/Yiewsley	Core study area
	86 - M4 Focus Area (National Highways)	Core study area
Hounslow	87 – Chiswick Town Centre (A315)	Wider study area
	88 – Chiswick (A4) Cedars Road/Hogarth Lane	Wider study area
	89 - Heston A4 Great West Road/Heston Road/Lampton Road	Core study area
	90 - Hounslow A4 Great West Road/Vicarage Farm Road	Core study area

[33] Imperial College London Environmental Research Group (2026). London health burden of recent air pollution. June 2026. Available at: https://www.london.gov.uk/programmes-strategies/environment-and-climate-change/environment-and-climate-change-case-studies-test/health-burden-air-pollution-london-2024 [Accessed 9/9/2026]

Local authority	AQFA	AQFA location
	91 - Hounslow Town Centre Area	Core study area
Ealing	38 - Hangar Lane Twyford Abbey Road	Wider study area
	39 - Uxbridge Road / Ealing Broadway	Wider study area
	40 - Perivale A40 Western Avenue Teignmouth Gardens to Alperton Lane	Wider study area
	41 - Acton A40 North Acton rail/Gypsy Corner/Savoy Circus/White City	Wider study area
	42 - Acton High Street/Gunnersbury Lane junction to rail in Acton High Street	Wider study area
Richmond upon Thames	124 – Twickenham Town Centre	Wider study area
	125 – Richmond Chalker's Corner/Clifford Avenue/A205/Upper Richmond Road/Millstone Green	Wider study area
	126 – Hammersmith Bridge Road at Castlenau	Wider study area
	127 – Richmond Town Centre including Bridge Street	Wider study area

5.6.1.8 Details of relevant automatic air quality monitoring sites are summarised in **Table 5-9** and **Figure 5-2**. The sites considered are monitoring locations that fall within the wider study area and within the areas of local authorities within the core study area.

Table 5-9: Automatic monitoring for core study area boroughs

Local authority	Site ID and Name	Site type	Pollutants monitored	Location details
Hillingdon	LHR2: London Heathrow	Airport	NO_2, PM_{10}, $PM_{2.5}$	Core study area; Hillingdon AQMA; AQFA 81
	T55: Heathrow Green Gates	Airport	NO_2, PM_{10}, $PM_{2.5}$, PM_1	Core study area; Hillingdon AQMA; AQFA 81

Local authority	Site ID and Name	Site type	Pollutants monitored	Location details
	HRL: London Harlington	Airport	NO_2, PM_{10}, $PM_{2.5}$, O_3	Core study area; Hillingdon AQMA; AQFA 81
	HIL: London Hillingdon	Urban background	NO_2, PM_{10}, $PM_{2.5}$, O_3	Core study area; Hillingdon AQMA; AQFA 86
	SIPS: Hillingdon Sipson	Urban background	NO_2	Core study area; Hillingdon AQMA; AQFA 81
	HIL1: London Harmondsworth	Roadside	NO_2, PM_{10}	Core study area; Hillingdon AQMA
	HIL4: London Harmondsworth Osiris	Urban background	PM_{10}, $PM_{2.5}$, PM_1	Core study area; Hillingdon AQMA
	HIL5: Hillingdon Hayes	Roadside	NO_2, PM_{10}	Core study area; Hillingdon AQMA; AQFA 82
	HI1: Hillingdon 1 - South Ruislip	Roadside	NO_2, PM_{10}	Wider study area; Hillingdon AQMA; AQFA 77
	HI3: Hillingdon 3 - Oxford Avenue	Urban background	NO_2, PM_{10}	Core study area; Hillingdon AQMA; AQFA 81
	LHRBR: Heathrow Bath Road	Roadside	NO_2, PM_{10}, $PM_{2.5}$	Core study area; Hillingdon AQMA; AQFA 81
Hounslow	HS4: Chiswick	Roadside	NO_2, PM_{10}, $PM_{2.5}$	Wider study area; Hounslow AQMA; AQFA 87
	HS5: Brentford	Roadside	NO_2, PM_{10}, $PM_{2.5}$	Wider study area; Hounslow AQMA

Local authority	Site ID and Name	Site type	Pollutants monitored	Location details
	HS6: Heston	Roadside	NO_2, PM_{10}, $PM_{2.5}$	Core study area; Hounslow AQMA; AQFA 89
	HS7: Hatton Cross	Urban background	NO_2, PM_{10}, $PM_{2.5}$	Core study area; Hounslow AQMA; AQFA 81
	HS8: Gunnersbury	Roadside	NO_2, PM_{10}, $PM_{2.5}$	Wider study area; Hounslow AQMA
	HS9: Feltham	Roadside	NO_2, PM_{10}, $PM_{2.5}$	Core study area; Hounslow AQMA
Spelthorne	SBC01: Sunbury Cross	Urban background	NO_2, PM_{10}, $PM_{2.5}$, PM_1	Wider study area; Spelthorne AQMA
	T54: Heathrow Oaks Road	Urban background	NO_2, PM_{10}, $PM_{2.5}$, PM_1, BC	Core study area; Spelthorne AQMA; AQFA 81
Slough	SLH8: Lakeside 2	Industrial	NO_2, PM_{10}	Core study area
	SLH9: Lakeside 2 Osiris	Industrial	PM_{10}, $PM_{2.5}$, PM_1	Core study area
	SLH10: Wellington Street	Roadside	NO_2	Wider study area; Slough AQMA No.4
	SLH11: Brands Hill London Road	Roadside	NO_2, PM_{10}	Core study area; Slough AQMA No.2
	SLH12: Slough Windmill Bath Road	Roadside	NO_2, PM_{10}	Wider study area; Slough AQMA No.3
	SLH13: Spackmans Way	Other	NO_2, PM_{10}	Wider study area; Slough AQMA No.1

Local authority	Site ID and Name	Site type	Pollutants monitored	Location details
	SLH14: Station Road Langley	Roadside	NO_2, PM_{10}	Core study area
	SLOW: Slough Windmill Bath Road	Roadside	PM_{10}, $PM_{2.5}$	Wider study area; Slough AQMA No.3
Buckinghamshire	No automatic monitoring within wider study area			
Ealing	EI1: Western Avenue	Roadside	NO_2, PM_{10}	Wider study area; Ealing AQMA; AQFA 41
	EI3: Acton Vale	Urban background	NO_2, PM_{10}	Wider study area; Ealing AQMA
	EI8: Horn Lane	Roadside	NO_2, PM_{10}	Wider study area; Ealing AQMA
	EA8: Horn Lane	Roadside	PM_{10}	Wider study area; Ealing AQMA
	EA6: Hanger Lane Gyratory	Roadside	NO_2, PM_{10}	Wider study area; Ealing AQMA; AQFA 38
Richmond upon Thames	TED2: Teddington	Suburban	PM_{10}, $PM_{2.5}$	Wider study area; Richmond AQMA
	RI1: Castlenau Library	Roadside	NO_2, PM_{10}	Wider study area; Richmond AQMA
	RI2: Wetland Centre	Urban background	NO_2, PM_{10}, $PM_{2.5}$, O_3	Wider study area; Richmond AQMA
Runnymede	No automatic monitoring in borough			
Windsor and Maidenhead	MW2: Clarence Road	Roadside	NO_2	Wider study area

5.6.1.9 Monitored concentrations for these locations were obtained for the years 2023 to 2025 using the openair R package[34], with cross-checking against the network

[34] Carslaw, D. C. and K. Ropkins, (2012). openair --- an R package for air quality data analysis. Environmental Modelling & Software. Volume 27-28, 52-61

websites. The annual average concentrations are summarised in **Appendix 5.1**. These exclude sites recording less than 75% data capture for the year, the minimum data capture specified by Defra LAQM guidance for reporting raw averages[35]. For the ES, the data will be updated with annualised values reported in local authority air quality annual status reports (ASRs).

5.6.1.10 Statutory limit values are met for all sites and locations, with the exception of one roadside site in Ealing (EA6) that exceeded the annual NO_2 limit value in 2023. NO_2 concentrations for this site were within 10% of the limit value in 2024.

5.6.1.11 The target value for annual average $PM_{2.5}$ is met for all sites for all years. Note that there are a number of sites with low data capture at which annualised values in forthcoming ASRs may exceed.

5.6.1.12 Roadside concentrations for 2023 from PCM meet the limit values for all links in the wider study area. For 13 road links of five roads, modelled concentrations exceed the target value for annual mean $PM_{2.5}$. These road links are summarised in **Table 5-10.**

[35] Department for Environment Food and Rural Affairs 2025. Local Air Quality Management Technical Guidance (TG22). May 2025

Table 5-10: PCM links within the wider study area with $PM_{2.5}$ concentrations greater or equal to the target vale of 10 µg/m³

Study Area	Road name	Census ID	Background			Total roadside		
			NO_2	PM_{10}	$PM_{2.5}$	NO_2	PM_{10}	$PM_{2.5}$
Core Area	A312	802018727	20.3	14.7	8.2	29.1	19.6	10.1
Core Area	A312	802073636	19.2	13.7	8.0	28.7	18.8	10.0
Wider Area	A4	802026116	17.9	14.3	8.2	26.8	19.1	10.1
Wider Area	A4	802046121	19.2	14.8	8.4	26.7	19.2	10.1
Wider Area	A3	802048580	15.7	13.6	7.9	27.1	19.1	10.1
Wider Area	A3	802073658	15.1	12.8	7.7	29.0	18.8	10.1
Wider Area	A40	802008509	19.5	15.0	8.6	27.4	19.6	10.3
Wider Area	A40	802016404	20.8	15.5	8.6	28.7	20.3	10.5
Wider Area	A40	802036437	20.8	15.5	8.6	31.7	21.5	11.0
Wider Area	A40	802056436	20.8	15.5	8.6	28.2	20.2	10.4
Wider Area	A406	802007055	21.6	15.5	8.7	26.6	19.3	10.2
Wider Area	A406	802037113	21.5	15.5	8.7	28.7	19.8	10.3
Wider Area	A406	802073141	19.5	15.1	8.5	28.2	20.3	10.6

5.6.1.13 Sections of the A312 in Hounslow are the only road links in the core study area exceeding the target value. The impact of the Proposed Development at these road links will be assessed in the ES.

5.6.1.14 Other road links identified as exceeding the PM2.5 target values are those for roads towards the western edge of the interim wider study area. The relevance of these road links for assessing the air quality impact of the Proposed Development will be determined by the scope of the traffic impacts at these locations.

5.6.1.15 Background concentrations across the study area for 2024 from PCM are summarised in **Appendix 5.1** showing compliance with limit and target values across the area. The tables include PCM concentrations for NOx and SO2.

5.6.1.16 **Table 5-11** summarises total NAEI emissions for PM_{10}, $PM_{2.5}$ and NO_x for the core and wider study areas. The top three emission groups are included in the table, highlighting the main source of emissions in the study area across the three pollutants as domestic and commercial combustion, industrial processes (emissions from non-combustion processes), road transport, other transport and waste.

Table 5-11: Total NAEI emissions of PM10, PM2.5 and NOx for study areas (tonnes) and percentage contributions from three highest emitting sectors

Pollutant	Core study area	Wider study area (excluding core area)
PM_{10}	535 (41% Industrial Processes; 25% Road Transport; 12% Other Transport)	1590 (46% Industrial Processes; 25% Road Transport; 11% Domestic and Commercial combustion)
$PM_{2.5}$	257 (30% Road Transport; 21% Domestic and Commercial combustion; 18% Other Transport)	729 (30% Road Transport; 23% Domestic and Commercial combustion; 12% Waste)
NO_x	5567 (60% Other Transport; 19% Road Transport; 8% Domestic and Commercial combustion)	8330 (36% Road Transport; 33% Other Transport; 19% Domestic and Commercial combustion)

5.6.1.17 Road and other transport emissions are significant contributors to $PM_{2.5}$ and NO_x emissions. Note, the other transport group includes emissions from aircraft, off-road mobile machinery, rail and shipping.

5.6.1.18 LAEI modelled annual average concentrations of NO_2, PM_{10} and $PM_{2.5}$ for 2022 are in line with monitored values and national modelling. Limit values for all three pollutants, and the $PM_{2.5}$ target value, are mostly met for all of London. LAEI

forecasted emissions for 2030 show reductions in London emissions, compared to 2022, of 30% for NO_x, 12% for PM_{10} and 11% for $PM_{2.5}$.

5.6.1.19 **Table 5-12** summarises Defra mapped background concentration ranges across the wider study area for a base year of 2021, and projections to 2025, 2030, 2035 and 2040. With the exception of NO_2 for some locations in 2021, the limit and target values for annual mean concentrations of NO_2, PM_{10} and $PM_{2.5}$ are met for background locations across the wider study area, for all years.

Table 5-12: Defra background maps, annual mean concentration ranges for wider study area

Pollutant	2021 (base year)	2025	2030	2035	2040
PM_{10}	11.0 – 17.5	10.6 – 17.2	10.2 – 17.0	9.9 – 16.7	9.7 – 16.6
$PM_{2.5}$	7.1 – 9.6	6.8 – 9.3	6.4 – 9.0	6.2 – 8.7	6.0 – 8.5
NO_2	12.1 – 42.9	10.9 – 33.0	9.2 – 29.8	8.1 – 28.3	7.6 – 28.3

5.6.1.20 The current monitored levels of $PM_{2.5}$ for the HS4 site in Hounslow and the projected Defra background concentrations for 2030, indicate that $PM_{2.5}$ concentrations are likely to meet the interim target value in the vicinity of this monitoring location. Data tables of modelled and monitored concentrations of other pollutants considered in the Air Quality Standards Regulations 2010 are provided in **Appendix 5.1** the relevant target and limit values for these pollutants are met and well below the standards.

5.6.2 Odour Baseline Description

5.6.2.1 Baseline odour conditions at and in the vicinity of the Site are expected to be influenced by both existing airport operations and other existing sources (including human and natural sources). No baseline information has been collected at this stage, however, baseline conditions will be determined, primarily through:

- Odour surveys within and in the vicinity of the Scoping Boundary, existing airport and up to approximately 300m distant; and
- Review of available complaints data from local authorities and Heathrow Airport.

5.6.2.2 Future baseline conditions, in the absence of the Proposed Development, will be established through review of relevant committed developments and any identified changes to existing odour-generating activities within the study area. In the absence of any such changes being identified, existing odour conditions are anticipated to remain broadly representative of the future baseline.

5.6.2.3 Existing odour generating activities on site include:

- Movement of aircraft and other vehicles;
- Wastewater treatment;
- Waste storage and recycling;

- Combustion including generators / energy centres; and
- Food preparation.

5.7 Likely Significant Effects Requiring Assessment

5.7.1.1 Likely significant effects requiring assessment for air quality and odour are summarised in **Table 5-13**. Details of effects scoped into the assessment for different phases of the Proposed Development are summarised in the following sections.

5.7.2 Construction

5.7.2.1 The EIA will consider the construction and operational phases of the Proposed Development. Details of each of these stages are set out in **Chapter 4: Approach to EIA.** In addition to permanent land use requirements, temporary take will be required to support construction and logistics activities throughout the construction period.

5.7.2.2 The Proposed Development includes the potential excavation and removal of areas of historic and licensed landfill together with the remediation of contaminated land where required.

5.7.2.3 For air quality, fuel combustion sources considered for construction phase include construction site vehicles and plant, construction vehicle movements on public roads and emissions associated with delays and diversions on public roads. Vehicle movements on public roads are also a source of non-exhaust emissions, such as brake & tyre wear.

5.7.2.4 The effect of delays and diversions on public roads could affect areas beyond the immediate vicinity of the construction sites, therefore has the potential to contribute to significant cumulative effects for other schemes leading to increases in traffic emissions.

5.7.2.5 Construction dust sources to be considered include land preparation and earthworks for runway, terminal and associated developments.

5.7.2.6 Potential construction sources of odour may include:

- Earthworks, particularly the excavation of contaminated land
- Excavation and removal of landfill material
- Stockpiles
- Dewatering
- Fuel storage
- Waste storage
- Temporary wastewater treatment.

5.7.3 Operation

5.7.3.1 As shown in **Table 5-13**, potential likely significant effects that will be assessed for the operational phase include combustion emissions, associated aircraft movements, airport activities and vehicle traffic associated with the airport. In addition, non-exhaust vehicle emissions will be assessed.

5.7.3.2 The sources for air quality are associated with emissions of the pollutants of interest. As detailed in **Section 5.5.1**, these are NO_2, PM_{10}, $PM_{2.5}$ and UFPs for human health, and NO_x, SO_2 and NH_3 for ecological receptors.

5.7.3.3 Potential operational sources of odour are likely to be similar to the existing sources described in **Section 5.6.2.3A**.

5.7.4 Decommissioning

5.7.4.1 The Proposed Development is expected to form a permanent part of Heathrow Airport's infrastructure and operation. Therefore, assessment of decommissioning is scoped out for air quality and odour.

Table 5-13: Likely significant Air Quality and Odour effects

Activity	Effect	Receptor
Construction		
Land preparation and earthworks	Emission of dust causing loss of amenity at sensitive receptors near to work sites and haul roads	Residential properties, schools, medical facilities, some commercial uses, some ecological receptors
	Odour amenity effects at existing sensitive receptors	Residential properties, schools, medical facilities, some commercial uses
Construction sites, earthworks, material storage for runway, terminal and associated developments	Emission of dust causing loss of amenity at sensitive receptors near to work sites and haul roads	Residential properties, schools, medical facilities, some commercial uses, some ecological receptors

Activity	Effect	Receptor
	Exhaust and non-exhaust emissions from construction vehicles and plant through fuel combustion that could increase concentrations of pollutants that could affect human health	Residential properties, schools, medical facilities, some ecological receptors
Construction waste and recycling facilities	Odour amenity effects at existing sensitive receptors	Residential properties, schools, medical facilities, some commercial uses
Construction vehicle movements using the public highway or temporary construction haul roads	Emissions from construction vehicles through fuel combustion and non-exhaust sources could increase concentrations of pollutants that could affect human health construction traffic routes.	Residential properties, schools, medical facilities, some ecological receptors
Traffic emissions due to delays and diversions	Exhaust and non-exhaust emissions from traffic flows due to delays and diversions on public highways, caused by construction activities	Residential properties, schools, medical facilities, some ecological receptors
Operation		

Activity	Effect	Receptor
Aircraft movements on the new runway and taxiways	Increased emissions from aircraft through fuel combustion and non-exhaust sources (aircraft brake and tyre wear) that could increase concentrations of pollutants	Residential properties, schools, medical facilities, some ecological receptors
	Odour amenity effects at existing sensitive receptors	Residential properties, schools, medical facilities, some commercial uses
Land based activities in support of airport operation (including Ground Support Equipment, heating plants etc)	Increased combustion emissions as a result of increased air traffic movement and / or passenger numbers	Residential properties, schools, medical facilities, some ecological receptors
Increase in vehicular traffic associated with the airport (including airport staff and passengers and freight vehicles)	Increased exhaust and non-exhaust emissions from vehicles on public highways that could increase concentrations of pollutants	Residential properties, schools, medical facilities, ecological receptors
Wastewater Treatment and waste storage/recycling facilities (new or relocated)	Odour amenity effects at existing sensitive receptors	Residential properties, schools, medical facilities, some commercial uses
Decommissioning		
N/A		

5.8 Effects Not Requiring Assessment

5.8.1.1 Potential effects to be scoped out of the Air Quality and Odour assessment are summarised in **Table 5-14**. Note, the likely significant effects of SO_2 emissions on ecological receptors will be assessed but are scoped out for human health impact.

Table 5-14: Potential effects to be scoped out of the Air Quality and Odour assessment

Activity	Effect	Receptor	Justification for scoping out
Operation of existing odour sources in vicinity of Site, e.g. agriculture, restaurants, households, except in the event that they are relocated as part of the development.	Odour amenity effects at the Proposed Development	Users of the Proposed Development	Users not considered to be highly sensitive to baseline odour , in line with IAQM guidance, as there is typically expected to be only transient exposure.
Jettisoning of fuel from aircraft in flight	Odour amenity effects at existing receptors	Residential properties, schools, medical facilities	Jettisoned fuel evaporates completely before reaching ground and is only carried out in emergency situations
Operation of new commercial kitchens	Odour amenity effects at existing receptors	Residential properties, schools, medical facilities	Commercial kitchens will be located away from sensitive receptors and will incorporate appropriate odour control and ventilation measures. Given the localised nature of kitchen odours, significant odour effects at sensitive receptors are not anticipated.

Activity	Effect	Receptor	Justification for scoping out
Combustion activities	SO_2, lead, benzene, CO, arsenic, cadmium, nickel and benzo(a)pyrene	Residential properties, schools, medical facilities	National monitoring and modelling datasets show that concentrations of SO_2, benzene and CO are well below the air quality limit values. Due to improvements in fuel standards and engine technologies over several decades, the contribution from new sources associated with the Proposed Development are likely to be small relative to the limit values. No significant sources of heavy metals introduced by the Proposed Development and no existing local sources have been identified. Measured concentrations are low.

5.9 Proposed Approach to Assessment

5.9.1 Proposed Approach (Air Quality)

Dispersion Modelling

5.9.1.1 The air quality impacts of the Proposed Development will principally be assessed by means of dispersion modelling. The modelling enables assessment of the impact of the development at sensitive receptors and all locations relevant for compliance with legal obligations for air quality.

5.9.1.2 The modelling will complement evidence from air quality monitoring and Defra national concentration modelling, by enabling detailed assessment of local impacts. It will be carried out in line with recommendations from PSDH for airport emissions compilation and dispersion modelling methodology, for construction and operational phase scenarios.

5.9.1.3 The modelling will be used to assess the impact on human health and ecological receptors. For human health, the pollutants to modelled are NO_2, PM_{10} and $PM_{2.5}$. For ecological receptors, the pollutants to be modelled are air concentrations of NO_x, SO_2 and NH_3, and deposition rates for nitrogen and acid-forming pollutants.

5.9.1.4 The assessment is expected to include the following scenarios:

- Current baseline;
- Future baselines, for comparison against construction and operation scenarios for the Proposed Development;
- Year of maximum impact due to construction activity;
- Year of opening for the Proposed Development;
- Year of maximum air quality effects;
- Year of maximum ATM and / or maximum traffic impacts.

5.9.1.5 Details of the modelling methodology are included in **Appendix 5.1**. Emissions will be modelled in sufficient detail to identify the sources of air quality impacts and the impact of potential operational efficiencies and emission reduction strategies.

5.9.1.6 The modelling will consider the impact on air pollution concentrations of airside emissions, landside airport emissions, on and off-airport road traffic, and non-airport emissions.

5.9.1.7 The modelling will include an assessment of UFPs. The assessment will review available evidence and monitoring data relating to UFPs, and consider their relevance to assessment of likely significant effects.

5.9.1.8 For human health impacts, modelled concentrations will be output for a range of sensitive receptor locations using the Ordnance Survey Address Point dataset across the core study area, including the location of residential properties, medical facilities and schools. Additional sensitive receptor locations will be identified for the wider study area for locations along the ARN identified by the traffic assessment. Modelled concentration will also be output for the location of automatic monitoring sites and identified PCM road links.

5.9.1.9 Results will also be calculated across a grid of receptor points in the core study area in order to generate high resolution pollution concentration maps.

5.9.1.10 The model results will enable assessment of whether the Proposed Development is likely to have a significant effect on UK's ability to comply with statutory air quality limits, objectives and targets, determined using the criteria set out in **5.9.1.12**. This will include the impact on compliance within AQMAs and AQFAs.

5.9.1.11 For sensitive receptors for which relevant limits, objectives or targets are breached (see **5.5.1.16** and **5.5.1.17**, for either future baseline or development scenarios, the significance of the impacts will be assessed in line with methodology within National Highways LA 105 guidance.

5.9.1.12 The guidance assigns differences in annual mean concentrations between the baseline and development scenarios of less than 1% of the relevant limits, objectives and targets as imperceptible. Differences of between more than 1% and up to 5% are assigned as small, between more than 5% and up to 10% as medium, and more than 10% as large. The number of receptors identified as having perceptible worsening and improvement in air quality is used to determine the significance of the air quality effects.

5.9.1.13 For alignment with local authority Air Quality Action Plans, comparison of model results against WHO air quality guideline values will be included in the ES. Presentation of these results will be discussed with stakeholders, including local authorities and GLA.

5.9.1.14 Ecological receptors assessed for air quality impacts will include Special Areas of Conservation (SACs), Special Protection Areas (SPAs). RAMSAR Sites, Sites of Special Scientific Interest (SSSIs), Areas of Special Scientific Interest (ASSIs), National Nature Reserves (NNRs), local nature reserves (LNRs), local wildlife sites (LWSs) and areas of ancient woodland (AW). Refer to **Chapter 6: Biodiversity** for details of the scope of the assessment for ecological receptors.

Construction dust

5.9.1.15 The impact of construction dust on amenity will be assessed using the methodology of the IAQM demolition and construction dust guidance, with reference to GLA SPG for the control of construction dust and emissions.

5.9.1.16 The construction dust assessment will be carried out for individual works sites and will account for the level of demolition, earthworks and construction activities, and expected vehicle movements from site to public roads. The risks of effects will be based upon the scale and nature of the works, plus the proximity of sensitive receptors.

5.9.1.17 The construction dust assessment will be the basis of site-specific mitigations incorporated into a dust management plan. Dust management plans will be integrated into Construction Environmental Management Plan (CEMP).

Air Quality Positive / Air Quality Neutral

5.9.1.18 London Plan guidance[36] requires an Air Quality Positive Statement for all large-scale developments subject to EIA, including developments for an aircraft runway or air passenger terminal at an airport. The statement for the Proposed Development will be produced in line with the guidance, summarising the air

[36] GLA 2023. London Plan Guidance: Air Quality Positive. February 2023

quality positive principles used in the design and mitigation of emissions for the development.

5.9.1.19 The Air Quality Statement will include the calculation of building and transport emissions, in line with the benchmarking requirements of the London Plan Air Quality Neutral guidance[37]. Since the benchmarking of emissions in this guidance is land-use dependent and does not include airports as a specified land-use, the approach to benchmarking building and transport emissions for the Proposed Development will be discussed and agreed with the LPA and GLA, to inform the assessment for the ES.

5.9.2 Proposed Approach (Odour)

5.9.2.1 The scope and methodology for the odour assessment have been determined with regard to the following guidance:

- IAQM 'Guidance on the Assessment of Odour for Planning' (July 2018[18] & draft update March 2026[38])
- EA 'Odour Management: How to comply with your environmental permit' (December 2025)[39].

5.9.2.2 The above guidance documents are underpinned by the widely accepted Source-Pathway-Receptor concept. This conceptual model recognises that before an adverse effect (e.g. loss of amenity or health impact) can occur, there must be:

- a source of odour emissions;
- a pathway for those emissions to be transported through the air; and
- a receptor that may be affected by them.

5.9.2.3 In the context of odour, the magnitude of impact, also referred to as relative odour exposure, is determined with regard to the following 'FIDOL' factors:

- **Frequency of detection** – How often an individual is exposed to odour
- **Intensity** – The individual's perception of the strength of the odour
- **Duration** – The overall duration of time that individuals are exposed to an odour
- **Odour unpleasantness** – The odour character and whether it is considered pleasant, unpleasant or neutral at a given odour concentration / intensity
- **Location** – The nature of the receptor, combined with its tolerance / expectation which is affected by surrounding land use, expectations and socio-economic factors.

5.9.2.4 IAQM guidance recommends the use of multiple assessment tools due to the partly subjective nature of odour, the lack of a 'silver bullet' assessment tool that on its own provides an unequivocal answer, and due to the inherent uncertainty associated with the assessments. The odour assessment will include the following tools:

[37] GLA 2023. London Plan Guidance: Air Quality Neutral. February 2023
[38] IAQM. Guidance on the assessment of odour for planning, version 2.0, March 2026.
[39] Environment Agency (EA). Odour management: how to comply with your environmental permit, December 2025.

- Site odour surveys, including sniff testing: to characterise the quality, frequency, intensity and persistence of the baseline odour environment. Initial surveys will be undertaken to identify potential odour sources using visual and olfactory analysis, with more focused surveys then undertaken in locations where further information and investigation is required.
- Complaints analysis: review of existing odour complaints to establish the nature and scale of existing baseline odour sources including airport and non-airport sources in the vicinity of the Site
- Odour risk assessment: to evaluate the potential impact of Proposed Development odour sources at existing sensitive locations, using a source-pathway-receptor approach, including semi-quantitative review of meteorological data and review of development layout.

5.9.2.5 The overall source–pathway–receptor approach will be applied to the construction and operational phases of the Proposed Development. For construction, the assessment will focus on temporary potentially odorous activities, including earthworks, excavation, handling and storage of materials and wastes, including landfill material, and temporary facilities, with consideration given to the duration and nature of the construction activities. For operation, the assessment will consider potentially odorous activities and infrastructure associated with the completed development, including their anticipated frequency and duration of operation. In both cases, the assessment will draw upon the available development information, site observations, monitoring and complaints information, where relevant and recognised guidance, with the level of assessment proportionate to the potential for significant odour effects.

5.9.2.6 The odour risk assessment will:

- Identify potentially odorous activities associated with the construction and operational phases;
- Identify relevant sensitive receptors;
- Determine whether a source-pathway-receptor linkage exists;
- Consider frequency, intensity, duration and offensiveness and location of odours likely to be experienced; and
- Assign a magnitude of effect, informed by the characteristics of the odour source, frequency, intensity, duration, offensiveness and location; and determine significance, in line with the wider EIA methodology.

5.9.2.7 Atmospheric dispersion modelling is not proposed as part of the odour assessment because no specific odour source has been identified at this stage for which quantitative modelling is considered necessary or proportionate. The assessment will instead use a qualitative source–pathway–receptor approach, informed by multiple assessment tools, to identify and assess potentially significant odour effects. The need for any further quantitative assessment will be considered only if the assessment identifies a specific source for which this is warranted; modelling could be appropriate in this case.

5.9.3 Additional Baseline Information Required

Air Quality

5.9.3.1 Diffusion tube monitoring data will be collected from forthcoming local authority ASRs, and will include a summary of monitoring data up to 2025, the latest full year of ratified data. These data will complement the baseline datasets for NO_2 concentrations.

5.9.3.2 Data from ASRs will be used to update automatic monitoring included for scoping the assessment, especially for $PM_{2.5}$. Sites reporting low data capture (<75%) will be updated with local authority annualised values, where appropriate. In line with Defra LAQM guidance, concentrations are annualised for sites with data capture between 25% and 75%.

5.9.3.3 UFP monitoring data from the LHR2 monitoring site will be requested from members of the Heathrow Airwatch Partnership. These data will be analysed alongside UFP monitoring from Defra networks.

Odour

5.9.3.4 The odour assessment is reliant on the collection of baseline data through the undertaking of odour surveys and the collection of complaints data, as indicated above. No further baseline information requirements are anticipated at this stage.

5.9.4 Cumulative Effects

Air Quality

5.9.4.1 Cumulative air quality effects resulting from the combination of effects from the Proposed Development and other developments will be assessed in accordance with the approach set out in **Chapter 24: Cumulative and In-Combination Effects**.

5.9.4.2 Potential cumulative effects for air quality may include developments with the potential to introduce significant road traffic and combustion emissions to the wider study area.

Odour

5.9.4.3 Potential cumulative effects will be considered where multiple sources of odour are proposed in close proximity to each other, and particular receptor(s). However, in line with IAQM guidance, cumulative effects are normally only relevant for ‘odours of similar character’.

5.9.5 In-Combination Effects

Air Quality

5.9.5.1 Potential in-combination effects may arise where the same receptors experience air quality effects alongside effects identified within other environmental topics.

5.9.5.2 In particular, receptors affected by changes in air pollutant concentrations may also experience effects associated with traffic and transport, noise and vibration, human health, townscape and visual effects, and socio-economics and communities.

5.9.5.3 The assessment of in-combination effects will be undertaken in accordance with the approach set out in **Chapter 24: Cumulative and In-Combination Effects**, drawing upon the findings of the relevant technical assessments.

Odour

5.9.5.4 For odour, potential in-combination effects may arise where receptors experiencing odour effects are also affected by other amenity related environmental effects including noise, visual impacts and lighting.Any such effects will be considered through the framework presented in **Chapter 24: Cumulative and In-Combination Effects**.

5.9.6 Limitations and Assumptions

Air Quality

5.9.6.1 The assessment will be undertaken on the basis of the design information available at the time of assessment and the proposed Rochdale Envelope / Design Envelope parameters. Where elements of the design remain under development, cautious worst-case assumptions will be applied in accordance with the assessment methodology.

5.9.6.2 The scope of the air quality assessment presented in the ES will be based on the information available at the time of assessment regarding the Proposed Development and its associated infrastructure. The assessment will assume that the scheme is designed, constructed, operated and maintained in accordance with relevant legislation and recognised good practice.

5.9.6.3 The assessment will rely on design information, publicly available information, consultation responses where available, and recognised technical guidance. Where baseline information is unavailable or incomplete, reasonable assumptions will be made based on the best available evidence and professional judgement, and clearly stated within the ES.

5.9.6.4 The assessment of air quality impacts will be based on detailed aircraft and road traffic activity data. Pollutant emission rates will be calculated using published

aircraft and road traffic emission factors. While the model verification process will ensure that the calculation of emissions for the baseline scenario is robust.

5.9.6.5 Future year assessments will necessarily require assumptions regarding factors including road vehicle fleet composition, background air quality trends, airport activity, aircraft and vehicle emissions performance, and other matters that cannot be known with certainty at the time of assessment. Such assumptions will be based on recognised modelling tools, published datasets and the best available evidence at the time of assessment

5.9.6.6 The construction dust assessment will be based on a cautious worst-case scenario reflecting the maximum anticipated scale, duration and intensity of construction activities at the time of assessment.

Odour

5.9.6.7 The scope of the odour assessment presented in the ES will be based on the information available at the time of assessment regarding the Proposed Development and its associated infrastructure. The assessment will assume that the scheme is designed, constructed, operated and maintained in accordance with relevant legislation, recognised good practice and any embedded mitigation incorporated within the design.

5.9.6.8 The assessment will identify potentially odorous activities associated with the Proposed Development and will focus on those sources considered capable of giving rise to significant odour effects at sensitive receptors. Should the design evolve such that additional potentially odorous activities are introduced, or the nature or scale of identified sources changes materially, the scope of the assessment will be reviewed accordingly.

5.9.6.9 The assessment will rely on information available from the Applicant, publicly available information, consultation responses where available, and recognised technical guidance. Where baseline information is unavailable or incomplete, reasonable professional assumptions will be made based on the best available evidence and clearly stated within the ES.

5.10 Proposed Approach to Mitigation

5.10.1.1 This section provides details on likely mitigation measures. This is informed by the mitigation hierarchy approach to avoid, mitigate or as a last resort compensate for the identified problems and existing adverse impacts, as set out in the draft HENPS.

5.10.1.2 The EIA Regulations require:

“A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment”.

- **Primary Mitigation –** Also known as embedded mitigation, primary mitigation refers to any modifications made to the location or design of the development during the pre-application phase that are an inherent part of the project, and do not require additional action to be taken.
- **Secondary Mitigation –** Secondary mitigation includes actions that will require further activity in order to achieve the anticipated outcome. These may be imposed as part of the planning consent.
- **Tertiary Mitigation –** Tertiary mitigation includes actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental effects.

5.10.1.3 In accordance with the mitigation hierarchy, priority will be given to avoiding effects through design and reducing effects at source. Where this is not sufficient, additional management or remedial actions will be considered. Accordingly, the initial assessments of the Proposed Development will account for primary and tertiary mitigations. Where these are not sufficient, the assessments will be undertaken again, with secondary mitigation in place, to form the residual impact assessment for the Proposed Development.

5.10.1.4 Mitigations will be considered to ensure that the Proposed Development enables compliance with UK legal obligations on air quality, minimises exposure to $PM_{2.5}$ and aligns with local authority AQAPs.

5.10.1.5 Baseline datasets identify road transport as a key source of pollution in the study areas, therefore key primary mitigations for air quality will include the Surface Access Strategy (SAS) described in **Chapter 21: Traffic and Transport**. The SAS will include measures relating to targets for public transport modal share for airport passengers and staff travel plan.

5.10.1.6 An Air Quality Management Plan (AQMP) will be produced as an overarching framework for mitigations for the operational phase. The AQMP will ensure that the Proposed Development will maintain and / or support on-going measures[40] to reduce emissions, and align with local authority priorities, stakeholder engagement and monitoring around the airport, including for UFPs.

5.10.1.7 The AQMP will ensure that the design of the Proposed Development is consistent with airport emission reduction actions, such as the provision of fixed electric ground power and preconditioned air to support plans to reduce emissions from aircraft auxiliary power units, and the provision of electrical charging to align with ambitions for expanding zero emission airside vehicles. In addition, the AQMP will align with the SAS and provide a framework for the identification and delivery of appropriate secondary mitigations, where deemed necessary.

[40] Heathrow Airport Limited (2026). Heathrow's Air Quality Action Plan. March 2026. Available at: https://www.heathrow.com/content/dam/heathrow/web/common/documents/company/heathrow-2-0-sustainability/strategy/heathrow-air-quality-action-plan.pdf [Accessed 7/7/2026]

5.10.1.8 During construction, appropriate mitigations will be secured through a Construction Traffic Management Plan (CTMP) and CEMP. In the first instance, the CTMP and CEMP will secure embedded mitigation and ensure adherence with guidance and best practices for emissions and exposure reduction.

5.10.1.9 The CTMP is described in **Chapter 21: Traffic and Transport**. It will be developed to manage construction traffic, workforce travel and the movement of plant and materials. Measures to avoid, reduce and mitigate traffic impacts will include considerations for air quality impacts, including avoiding or minimising impact at sensitive receptors.

5.10.1.10 Best practice measures will be implemented through adherence to the CEMP, including good housekeeping, prompt removal of waste, appropriate management of excavated materials and temporary storage areas, and maintenance of plant and equipment. Appropriate operational management procedures, including regular maintenance, waste management and inspection regimes, will be implemented to minimise the potential for odour and dust generation.

5.10.1.11 The principal form of mitigation with respect to odour will be to avoid locating any significant odour sources close to receptor locations. Where further mitigation of potential odour effects is required, this will be achieved through a combination of embedded design measures and good operational and construction practices. During the design stage, opportunities to minimise odour emissions will be considered through the appropriate location and design of potentially odorous infrastructure, including enclosed waste storage areas, foul drainage infrastructure and any wastewater pumping facilities, together with appropriate ventilation and odour control where required.

5.10.1.12 Where the odour assessment identifies a requirement for additional mitigation, this will be developed in accordance with the principles of the IAQM guidance and agreed with the relevant stakeholders as appropriate.

5.10.1.13 The precise package of mitigations adopted for air quality and odour will be subject to consultation with local communities and relevant stakeholders, to ensure the most effective measures are taken forward. Mitigations will align with local actions and strategies including AQAPs and an appropriate Air Quality Positive approach.

5.11 Summary

5.11.1.1 A summary of the elements scoped in/out of Air Quality and Odour assessment is provided in **Table 5-15**.

Table 5-15: Elements scoped in/out of Air Quality and Odour assessment

Discipline	Scoped In Elements	Scoped Out Elements
Air Quality	Impact of emissions from aircraft, airport and road traffic activities associated with the construction and operation of the Proposed Development for human health and ecological receptors. Construction impacts will include the impact of dust on amenity.	Pollutants: SO_2 (for human health), lead, benzene, carbon monoxide, arsenic, cadmium, nickel and benzo(a)pyrene
Odour	Amenity impacts on existing sensitive uses resulting from new or relocated emissions sources, and associated cumulative/in-combination effects.	Odour impacts on proposed uses.

Environmental Impact Assessment Scoping Report

Chapter 6

Biodiversity

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6. Biodiversity

6.1 Introduction

6.1.1.1 This Chapter of the Environmental Impact Assessment (EIA) Scoping Report has been prepared by APEM Limited (APEM) and sets out the likely significant effects on terrestrial and freshwater biodiversity as a result of the Proposed Development which will be reported in the subsequent Environmental Statement (ES).

6.1.1.2 The Chapter describes the policy and legislation associated with biodiversity, details of consultation with stakeholder engagement, the study area for this assessment, data sources used for this assessment, baseline conditions including initial desk study data and surveys, likely significant effects requiring assessment, effects not requiring assessment, the proposed approach to this assessment and the proposed approach to mitigation.

6.1.1.3 Key sources of impact on terrestrial and freshwater biodiversity include, but are not limited to, habitat loss, degradation and fragmentation, hydrological modification, noise pollution, light pollution, vibration, reduced air quality, bird strikes and collision risk, climate change and invasive and non-native species (INNS).

6.1.1.4 Key accompanying assessments and deliverables associated with this topic include, but are not limited to, a Habitats Regulations Assessment (HRA), INNS risk assessment and biosecurity plan, Outline Biodiversity Gain Plan, Habitat Management and Monitoring Plan (HMMP) and Outline Construction Environmental Management Plan (OCEMP).

6.1.1.5 This Chapter should be read in conjunction with **Chapter 5: Air Quality and Odour**, **Chapter 7: Ornithology**, **Chapter 9: Climate Change**, **Chapter 15: Landscape and Visual Amenity**, **Chapter 20: Noise and Vibration** and **Chapter 22: Water Environment**.

6.2 Policy, Legislation and Guidance

6.2.1.1 **Table 6-1**, **Table 6-2 and Table 6-3** identify the relevant topic-specific policies, legislation and guidance that have informed the scope and, where relevant, the study area of the assessment presented in **Chapter 6: Biodiversity**. Further information on the policies relevant to the EIA and their status is set out in **Section 1.9**, which should be read in conjunction with this chapter. There is no other legislation relevant for consideration under this assessment over and above The Infrastructure Planning (EIA) Regulations (the EIA Regulations).

Table 6-1: Policy relevant to the biodiversity assessment

Relevant Policy	Relevance to assessment
Policy – International	
Ramsar Convention on Wetlands 1971[1]	This international policy sets our briefs with the aim to support policymakers, practitioners, and other stakeholders, with practical recommendations to inform decision-making, strengthen implementation, and promote the conservation, restoration, and sustainable use of wetlands. The South West London Waterbodies Ramsar is located directly adjacent to the Study Area.
The Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention) 1979[2]	This international policy aims to ensure the conservation and protection of "wild plant and animal species and their natural habitats", as listed in Appendices I (strictly protected flora species) and II (strictly protected fauna species), of the Convention. The Convention also covers the regulation of exploitation of migratory species, in Appendix III (protected fauna species). Strictly protected fauna species under Appendix II of relevance to the Heathrow airport expansion, include but are not limited to, all species of bat (except common pipistrelle (*Pipistrellus* pipistrellus)), otter (*Lutra lutra*), smooth snake (*Coronella austriaca*), sand lizard (*Lacerta agilis*) and great crested newt ((GCN); *Triturus cristatus*). Protected fauna species under Appendix III of relevance to the Heathrow airport expansion Study Area, include but are not limited to, common pipistrelle, beaver (*Castor fiber*), badger (*Meles meles*), hazel dormouse (*Muscardinus avellanarius*), European hedgehog (*Erinaceus europaeus*) and all reptiles/amphibians not listed in Appendix II.
Convention on the Conservation of Migratory Species of Wild	This international policy aims to conserve migratory species and their associated habitats by providing protection for endangered migratory species, as

[1] The Convention on Wetlands (2026). Policy Briefs. Available from: https://www.ramsar.org/policy-briefs (accessed on: 17/08/2026).
[2] Council of Europe (2025). Appendices of the Convention and Amendments to the Appendices. Available from: https://www.coe.int/en/web/bern-convention/appendices (accessed on: 17/08/2026).

Relevant Policy	Relevance to assessment
Animals (Bonn Convention) 1979[3]	listed in Appendix I of the Convention. The policy aims to align multilateral agreements for the conservation and management of migratory species. Migratory species under Appendix I of relevance to the Heathrow airport expansion Study Area, include but are not limited to, all European populations of species of bat under Rhinolophidae and Vespertilionidae.
Policy – National	
Airport National Policy Statement (ANPS) 2018[4]	This document, referred to as 'ANPS', sets out the national policies on biodiversity and nature conservation relevant to the airport expansions in the South East of England, including specific references to Heathrow. The "Biodiversity and ecological conservation" section outlines the UK Governments' strategy and objectives towards restoring nature and improving environmental quality and security, with reference to underpinning legislation and policy. Paragraph 5.86 describes how the applicant must adhere to the National Planning Policy Framework (NPPF), as well as moving from provision of no net loss to achieving a net gain for biodiversity. Paragraph 5.89 describes how the applicant must clearly set out any likely significant effects of the works upon designated sites, habitats and protected species or those of principle importance. Paragraph 5.94 outlines the applicant must address the mitigation hierarchy. Paragraph 5.95 outlines compensation ratios relating to the effects of the scheme, and how "*habitat creation, where required, should be focused on areas where the most*

[3] JNCC (2019). Convention on the Conservation of Migratory Species of Wild Animals. Available from: https://jncc.gov.uk/our-work/the-convention-on-the-conservation-of-migratory-species-of-wild-animals/ (accessed on: 17/08/2026).

[4] UK Government (2018). Airports National Policy Statement: new runway capacity and infrastructure at airports in the South East of England. Available from: https://assets.publishing.service.gov.uk/media/5b1794cded915d2cccc8d336/airports-nps-new-runway-capacity-and-infrastructure-at-airports-in-the-south-east-of-england-print-version.pdf (accessed on: 21/09/2026).

Relevant Policy	Relevance to assessment
	ecological and ecosystems services benefits can be realised." Paragraphs 5.92 and 5.93 describe the general principles the Secretary of State should consider for the Development Consent Order (DCO) application. These general principles include requirements that should be attached to any consents or planning obligations, mitigation measures between the applicant and Natural England including any relevant licences including protected species mitigation licences and whether they are granted, refused or intends to grant or refuse. Paragraph 5.97 mentions that the Secretary of State must consider that "*appropriate weight is attached to designated sites of international, national and local importance, protected species, habitats and other species of principal importance for the conservation of biodiversity, and to biodiversity and geological interests within the wider environment.*" when deciding if to grant a DCO.
Draft Heathrow Expansion National Policy Statement (HENPS) 2026[5]	This draft document, referred to as draft 'HENPS', sets out the national policies on biodiversity and nature conservation relevant to the Heathrow airport expansion. The draft HENPS will replace the ANPS (mentioned above), once designated. The "Biodiversity and nature conservation" section outlines the UK Governments' strategy and objectives towards restoring nature and improving environmental quality and security, with reference to underpinning legislation and policy. Paragraphs 5.156 describes how the applicant must consider direct and indirect impacts of the works upon habitats and protected species and the provision of proportionate environmental information on the likely impacts to biodiversity and nature. Paragraph 5.157 describes how the applicant must take advantage of opportunities to conserve and

[5] UK Government (2026). Draft Heathrow Expansion National Policy Statement. Published June 2026. Updated June 2026. Available from: https://www.gov.uk/government/publications/draft-heathrow-expansion-national-policy-statement (accessed on: 13/07/2026).

Relevant Policy	Relevance to assessment
	enhance biodiversity and geological conservation interests as well as consider how their proposal will deliver Biodiversity Net Gain (BNG). BNG is also described in paragraphs 4.50 and 4.51 and is underpinned by national policy "Nationally significant infrastructure projects: biodiversity gain statement for airports". Paragraphs 5.158 to 5.163 outlines elements the applicant must demonstrate to avoid direct or indirect harm or disturbance in line with the mitigation hierarchy. This also includes the potential for the delivery of strategic conservation measures that address specific environmental impacts of development on protected sites or species, where Environmental Delivery Plans (EDPs) have been implemented. Paragraphs 5.164 to 5.183 describe the general principles the Secretary of State should consider for the DCO application. These general principles include policies to avoid significant harm to biodiversity and geological conservation interests, climate change, mitigation and compensation measures and biodiversity net gain requirements. Paragraph 5.169 mentions that the Secretary of State must consider that "*appropriate weight is attached to: designated sites of international, national and local importance; irreplaceable habitats; protected species and habitats; other species of principal importance for the conservation of biodiversity; biodiversity and geological interests within the wider environment; and to areas prioritised for nature's recovery in the relevant local nature recovery strategies*" when deciding if to grant a DCO.
National Networks National Policy Statement (NNNPS) 2024[6]	The NNNPS provides planning guidance for nationally significant road, rail and strategic rail freight interchange projects. The draft HENPS described above, reiterates content outlined within the NNNPS with regards to

[6] Department of Transport (2024). National Networks National Policy Statement. Published March 2024. Available from: https://assets.publishing.service.gov.uk/media/65e9c5ac62ff48001a87b373/national-networks-national-policy-statement-web.pdf (accessed on: 14/07/2026).

Relevant Policy	Relevance to assessment
	the approach required towards biodiversity including mitigation, compensation and enhancement.
National Planning Policy Framework (NPPF) 2026[7]	The NPPF sets out the UK Government's planning policies for England, and how they should be applied. Section 19 "Conserving and enhancing the natural environment" describes how planning policies and decisions should protect and enhance, the natural and local environment including biodiversity and geodiversity. The NPPF also integrates the requirement to demonstrate BNG, within the context of the mitigation hierarchy.
Nationally significant infrastructure projects: biodiversity gain statement for airports 2026[8]	BNG is defined as an approach to development that aims to leave the natural environment in a measurably better state than it was in beforehand. Nationally Significant Infrastructure Projects (NSIPs) are large scale developments which deliver essential services (energy, transport, waste, wastewater and water) and contribute to economic growth. The Planning Act 2008, as amended by Section 99 and Schedule 15 of the Environment Act 2021, introduces a BNG requirement for NSIPs through amendments to sections 103 to 105 and the insertion of Schedule 2A.1. NSIP developers who apply for a DCO on, or after, 2nd November 2026 must deliver at least 10% BNG, as mandatory. Applicants must submit an Outline Biodiversity Gain Plan to the Planning Inspectorate as part of the Proposed Development. Paragraph 9.3 outlines the

[7] Ministry of Housing, Communities and Local Government (2026). National Planning Policy Framework. August 2026. Available from: https://assets.publishing.service.gov.uk/media/6a82fb953bd75b81e2329a87/National_Planning_Policy_Framework.pdf (accessed on: 17/08/2026).

[8] Department for Environment, Food & Rural Affairs (2026). Nationally significant infrastructure projects: biodiversity gain statement for airports. Published June 2026. Available from: https://assets.publishing.service.gov.uk/media/6a185638b95db968c8f3bbef/biodiversity-gain-statement-for-airports.pdf (accessed on: 14/07/2026).

Relevant Policy	Relevance to assessment
	full list of matters which must be included within the plan. The policy outlines that habitats within the order limits that are considered 'unimpacted by the development' will not need including at the baseline, or BNG boundary, although applicants may choose to voluntarily include them.
Policy - Regional	
The London Plan 2021[9] *Policy G5 – Urban greening* *Policy G6 – Biodiversity and access to nature* *Policy G7 – Trees and woodlands*	Policy G5 sets out how major development proposals should contribute to the 'greening' of London, including urban greening and incorporating measures such as landscaping (including trees), green roofs, green walls and nature-based sustainable drainage. The policy also sets out how boroughs are to develop an 'Urban Greening Factor' (UGF) for how much greening is required for new developments. It sets out how existing green cover retained on site shall count towards the development interim target score. Policy G6 sets out that Sites of Importance for Nature Conservation (SINCs) should be protected. The policy also mentions how boroughs are to: support the protection and conservation of priority species and habitats outside of SINCs; seek opportunities to create other habitats or features; ensure designated sites of European or national nature conservation importance are clearly identified and impacts assessed in accordance with legislative requirement. Development proposals are to demonstrate that where harm to a SINC is unavoidable, and where the benefits of the development proposal clearly outweigh the impacts on biodiversity, the mitigation hierarchy is applied to minimise development impacts and, should manage impacts on biodiversity and aim to secure net biodiversity gain. Policy G7 sets out how London's urban forest and woodlands should be protected and maintained, and new trees and woodlands should be planted in appropriate locations in order to increase the extent

[9] GLA (2021). The London Plan: The Spatial Development Strategy for London. Available from: https://www.london.gov.uk/sites/default/files/the_london_plan_2021.pdf (accessed on: 18/08/2026).

Relevant Policy	Relevance to assessment
	of London's urban forest. The policy also states veteran trees, and ancient woodland must be protected and that development proposals should ensure that, wherever possible, existing trees of value are retained. Policy G5 sets out how major development proposals should contribute to the 'greening' of London, including urban greening and incorporating measures such as landscaping (including trees), green roofs, green walls and nature-based sustainable drainage. The policy also sets out how boroughs are to develop an 'Urban Greening Factor' (UGF) for how much greening is required for new developments. It sets out how existing green cover retained on site shall count towards the development interim target score. If planning permission is granted that necessitates the removal of trees, there should be adequate replacement based on the existing value of the benefits of the trees removed.
The Draft London Plan 2026[10] *GHR6 Trees, biodiversity and geodiversity* *GHR7 Green infrastructure and urban greening factor*	Policy GHR6 sets out how development proposals should deliver new tree planting where possible, ensure trees of 'value' are retained, and where removal is unavoidable there must be adequate replacement based on the existing benefits of the trees that are to be removed. The policy also sets out how development proposals must contribute to London's nature recovery, including the protection of SINCs, delivery of national BNG requirements with the use of Local Nature Recovery Strategies (LNRS). Policy GHR7 sets out how development proposals should respond positively to existing green infrastructure assets, seeking to deliver enhancements to their functionality, including their connectivity and accessibility, where possible and identify strategic green infrastructure opportunities identified, integrating these and connections to them in their scheme design. The policy also sets

[10] GLA (2026). The Draft London Plan 2026.
Available from: https://www.london.gov.uk/programmes-strategies/planning/london-plan/next-london-plan/draft-london-plan-consultation/draft-london-plan-consultation-resources/draft-london-plan (accessed on: 08/09/2026).

Relevant Policy	Relevance to assessment
	out how the development should use the UGF for how much greening is required.
Policy – Local	
London Borough of Hillingdon, The Local Plan 2012[11] *Policy EM7 – Biodiversity and Geological Conservation* *Policy DMEI 5 – Development in Green Chains* *Policy DMEI 6 – Development in Green Edge Locations* *Policy DMEI 7 – Biodiversity Protection and Enhancement* *Policy DMHB 14 – Trees and Landscaping* *Policy DMAV 2 – Heathrow Airport*	The Local Plan 2012 of the London Borough of Hillingdon has numerous relevant policies to biodiversity and the Proposed Development. The Proposed Development includes areas of Green Chains, Green Belt, Metropolitan Open Land, SINCs, Nature Reserves, countryside, green spaces or the Blue Ribbon Network. Policy EM7 sets out how biodiversity must be protected and enhanced, to support the necessary changes to adapt to climate change as well as encouraging the development of wildlife corridors. Policy DMEI 7 sets out how the development should adhere to the mitigation hierarchy, where loss of a significant existing feature of biodiversity is unavoidable, replacement features of equivalent biodiversity value should be provided on-site and can be delivered off-site through a legal agreement if unavoidable. The policy further sets out how the applicants must submit appropriate surveys and assessments to demonstrate that the proposed development will not have unacceptable effects and must provide a positive contribution to the protection and enhancement of the site or feature of ecological value. The Proposed Development is alongside the Grand Union Canal, and as such there will be an expectation to contribute to additional biodiversity improvements. Policy DHMB 14 sets out how the development will be expected to retain, or enhance, existing landscaping, trees, biodiversity or other natural features of remit. The development will need to provide a landscape plan, which demonstrates the support and enhancement of biodiversity and amenity, particularly in areas deficient of green

[11] London Borough of Hillingdon (2012). Local Plan. Available from: https://pre.hillingdon.gov.uk/planning-policy/local-plan-review (accessed on: 18/08/2026).

Relevant Policy	Relevance to assessment
	infrastructure. Policy DMAV 2 sets out that development proposals within the Heathrow Airport boundary will only be supported if they relate directly to the airport use; there is no detrimental impact to the safe and efficient operation of local and strategic transport networks; they comply with Policy DMEI 14 on Air Quality; there are no other significant adverse environmental impacts and they comply with all other relevant policies of the Local Plan.
London Borough of Hounslow Local Plan 2015 to 2030[12] *Policy GB7 – Biodiversity*	Policy GB7 of the Local Plan 2015 to 2030 of the London Borough of Hounslow sets out how developments must demonstrate the mitigation hierarchy has been adhered to; protection of designated sites and supporting new designations; promoting the qualitative enhancement of biodiversity sites; and, contribute to the greening of the borough, and contribute to the action plans set out in the Hounslow Biodiversity Action Plan (BAP).
London Borough of Hounslow Local Plan 2020 to 2041 Proposed Submission Version (Regulation 19)[13] *Policy GB7 - Biodiversity*	Policy GB7 of the Local Plan 2020 to 2041 of the London Borough of Hounslow sets out how developments must demonstrate the mitigation hierarchy has been adhered to; protection of designated sites and supporting new designations; promoting the conservation, restoration and enhancement of priority habitats and ecological networks; protect irreplaceable habitats; achieve at least 10% BNG and draft Biodiversity Gain Plan and Habitat Management and Monitoring Plan; undertake a survey for INNS; contribute to the greening of the borough, and contribute to the action plans set out in the Hounslow BAP, Hounslow Nature Recovery Action Plan (NRAP), London LNRS, or any other superseding document.

[12] London Borough of Hounslow (2015). Local Plan. Available from: https://www.hounslow.gov.uk/local-plan/local-plan-1 (accessed on: 18/08/2026).
[13] London Borough of Hounslow (2024). Hounslow Local Plan 2020 – 2041 Proposed Submission Version (Regulation 19. Available from: https://www.hounslow.gov.uk/downloads/file/13942/hounslow-local-plan-2020-2041-proposed-submission-version (accessed on: 21/09/2026).

Relevant Policy	Relevance to assessment
Spelthorne Borough Council Local Plan 2024 – 2039/40[14] *Policy E2 - Biodiversity*	Policy E2 of the Local Plan 2024 to 2039/40 of Spelthorne Borough Council sets out how developments must restore, maintain and enhance habitat connectivity and will seek opportunities for habitat creation particularly within Biodiversity Opportunity Areas. In addition, developments must adhere to the mitigation hierarchy and secure at least 10% BNG in accordance with the Surrey LNRS including the delivery of innovative approaches (e.g. bee bricks, bird nest and bat roost boxes, green roofs, living walls, minimal external lighting). The policy also sets out specific references for designated sites, irreplaceable habitats, priority habitats and priority species and in which cases planning permission can be granted.
Slough Borough Council Local Plan March 2004[15] *Policy EN3 - Landscaping Requirements* *Policy EN22 - Protection of Sites with Nature Conservation Interest* *Policy EN24 – Protection of Watercourses*	The Local Plan 2004 of Slough Borough Council has numerous relevant policies to biodiversity and the Proposed Development. Policy EN3 sets out that all new development proposals should provide a comprehensive landscaping scheme. Existing mature trees, watercourses and other landscape features that make a significant contribution to local character should be retained and incorporated into the design wherever possible. The policy further requires the implementation and long-term maintenance of landscaping measures and acknowledges that off-site planting may be required where on-site landscaping is lost or where opportunities exist to enhance the surrounding area. Policy EN22 sets out that development proposals should protect sites of nature conservation importance, including Wildlife Heritage Sites and other areas containing features of local ecological value. Development that would adversely affect such sites will only be supported where appropriate measures can be implemented to conserve wildlife

[14] Spelthorne Borough Council (2026). Local Plan. Available from: https://www.spelthorne.gov.uk/page/1383/local-plan-march-2026 (accessed on: 18/08/2026).
[15] Slough Borough Council (2004). Local Plan Saved Policies. Available from: https://www.slough.gov.uk/downloads/file/2272/slough-local-plan-2004-saved-policies (accessed on: 19/08/2026).

Relevant Policy	Relevance to assessment
	interests. The policy further requires ecological appraisals where development has the potential to affect habitats, species or other nature conservation features. Policy EN24 sets out that development should not adversely affect the water quality or the ecological, amenity and historic value of watercourses. The policy encourages opportunities to enhance and restore watercourses where appropriate and allows for replacement features of equal or greater value where justified, provided there is no overall detriment to the ecological, water quality or amenity value of the water environment.
Buckinghamshire Council Draft Local Plan 2024 – 2025 Regulation 19 Publication Version[16] *SP13 – Natural environment and climate resilience* *NE6 - Biodiversity gain and nature recovery*	The draft Local Plan 2024-2025 (Regulation 19) of Buckinghamshire Council has numerous relevant policies to biodiversity and the Proposed Development. Policy SP13 sets out that development should conserve, protect and enhance the natural environment, including designated landscapes, biodiversity resources and green and blue infrastructure networks. The policy supports the delivery of nature recovery through habitat creation, enhancement and connectivity, having regard to the Buckinghamshire and Milton Keynes Local Nature Recovery Strategy, and seeks to secure a minimum 10% BNG across applicable developments. The policy further requires development to protect and improve water quality, incorporate green and blue infrastructure, increase canopy cover where appropriate, utilise SUDs and contribute to climate change mitigation and resilience. Policy NE6 sets out that development proposals should maximise opportunities to conserve, enhance and expand biodiversity, whilst strengthening ecological networks and contributing to local nature recovery objectives. Where ecological interest is present, applicants are

[16] Buckinghamshire Council (2026). Draft Local Plan 2024 – 2025 Regulation 19 Publication Version. Available from: https://media.buckinghamshire.gov.uk/documents/Draft_Local_Plan_for_Buckinghamshire_Regulation_19_July_2026.pdf (accessed on: 21/09/2026).

Relevant Policy	Relevance to assessment
	required to submit appropriate ecological surveys and reports demonstrating how biodiversity will be protected and enhanced. The policy requires non-exempt developments to achieve BNG in accordance with national legislation and the latest Statutory Biodiversity Metric, with habitat enhancements designed to support nature recovery priorities. Biodiversity gains should be delivered in accordance with the biodiversity gain hierarchy, with off-site measures located as close as possible to the development site, and significant habitat creation or enhancement proposals must be supported by long-term management and monitoring arrangements.
Buckinghamshire Council Minerals and Waste Local Plan 2016 - 2036[17] *Policy 18 - Natural Environment*	Policy 18 sets out that minerals and waste development proposals should conserve and enhance the natural environment, including designated sites, priority habitats and protected or notable species. The policy provides protection to designated sites, requiring the mitigation hierarchy to be adhered to. The policy also states ancient woodland and veteran trees as irreplaceable habitats which should be protected. The policy requires development to deliver BNG, contribute to ecological networks and support BAP targets. Applicants must provide an assessment of ecological assets and potential impacts, demonstrating how adverse effects will be avoided or minimised in accordance with the mitigation hierarchy, with appropriate compensatory measures and long-term management secured where necessary.
The Royal Borough of Windsor and Maidenhead Local Plan 2013 - 2023[18]	Policy NR2 sets out that development proposals should maintain, protect and enhance biodiversity, designated sites and protected species, whilst avoiding adverse effects on habitats of principal importance. The policy requires applicants to

[17] Buckinghamshire Council (2019). Buckinghamshire Minerals and Waste Local Plan 2016 - 2036. Available from: https://media.buckinghamshire.gov.uk/documents/buckinghamshire-minerals-and-waste-local-plan-2016-2036_yiYUGSb.pdf (accessed on: 21/09/2026).
[18] The Royal Borough of Windsor and Maidenhead (2013). Borough Local Plan 2013 – 2033. Available from: https://www.rbwm.gov.uk/planning-and-building-control/planning-policy/development-plan/adopted-local-plan (accessed on: 19/08/2026).

Relevant Policy	Relevance to assessment
Policy NR 2 - Nature Conservation and Biodiversity *Policy NR 3 – Trees, Woodlands and Hedgerows*	adhere to the mitigation hierarchy. Developments should deliver BNG, maintain and enhance habitat connectivity through ecological networks and green corridors, and seek opportunities for biodiversity enhancement. The policy further requires ecological assessments to support planning applications and demonstrate how biodiversity interests, including designated sites, habitats, species and watercourses, will be protected and enhanced. Policy NR3 sets out that development proposals should protect, enhance and expand trees, woodlands and hedgerows, recognising their importance for biodiversity, landscape character and ecological connectivity. The policy affords strong protection to ancient woodland and veteran trees as irreplaceable habitats and requires existing trees, woodland and hedgerows to be retained wherever possible. Where impacts are unavoidable, appropriate mitigation, habitat enhancement and replacement planting should be provided. The policy further requires ecological assessments to accompany development proposals where trees, woodland, hedgerows or protected species may be affected, and seeks the provision of new tree planting and landscaping to strengthen green infrastructure.
London Borough of Ealing Local Plan – Development Strategy 2026 Development Plan Document[19] *Policy 5.3 - Protect & Enhance Green Corridors* *Policy 5.4 - Protect the Natural Environment – Biodiversity and Geodiversity* *Policy 5.5 - Promoting Parks, Local Green Space and Addressing Deficiency*	Policy 5.3 sets out that development proposals should seek to retain and enhance green infrastructure assets and support opportunities for biodiversity enhancement where appropriate. Policy 5.4 sets out that developments should protect and enhance biodiversity through the conservation and improvement of the network of designated sites, green spaces and waterways. The policy promotes the enhancement of ecological value and accessibility of existing sites, particularly in areas deficient in access to nature, and requires biodiversity considerations to be integrated into the

[19] London Borough of Ealing (2026). Development Strategy 2026 Development Plan Document. Adopted 3rd April 2012. Available from: https://www.ealing.gov.uk/download/downloads/id/19446/development_strategy_2026_-_development_plan_document.pdf (accessed on: 21/09/2026).

Relevant Policy	Relevance to assessment
	management of parks, gardens, waterways, green corridors and other greenspaces. Policy 5.5 sets out the promotion of creating and enhancing parks, local greenspaces and green ways. Development proposals may be expected to contribute towards the provision and improvement of green infrastructure, including parks, open spaces and connected walking and cycling routes.
Runnymede 2030 Local Plan[20] *Policy EE9 - Biodiversity, Geodiversity and Nature Conservation* *Policy EE11 - Green Infrastructure*	Policy EE9 sets out that development proposals should protect and enhance biodiversity and nature conservation interests. The policy requires development to achieve BNG and demonstrate compliance with the mitigation hierarchy. Developments affecting designated sites will only be permitted where adverse effects can be avoided or appropriately addressed and where the ecological value of sites and species can be maintained or enhanced. Policy EE11 sets out that development proposals should protect, restore and enhance green infrastructure, avoiding further habitat fragmentation and strengthening ecological connectivity, particularly within Biodiversity Opportunity Areas. The policy requires developments to contribute towards the delivery of a high-quality green infrastructure network through the provision and enhancement of on-site green infrastructure assets, with financial contributions towards off-site provision sought where on-site delivery is not feasible. The policy further promotes the protection and long-term management of trees, including those protected by Tree Preservation Orders.
South Bucks Core Strategy Development Plan Document 2011[21]	Policy 9 sets out that development proposals should protect and enhance the natural environment, with particular emphasis on conserving the Chilterns AONB and protecting the integrity of Burnham Beeches SAC. The policy requires development to

[20] Runnymede Borough Council (2020). Runnymede 2030 Local Plan. Adopted 16th July 2020. Available from: https://www.runnymede.gov.uk/downloads/file/781/adopted-2030-lp (accessed on: 21/09/2026).
[21] South Bucks District Council (2011). Core Strategy Development Plan Document. Available from: https://media.buckinghamshire.gov.uk/documents/South_Bucks_Core_Strategy_-_Adopted_February_2011_bb48FA7.pdf (accessed on: 21/09/2026).

Relevant Policy	Relevance to assessment
Core Policy 9 – Natural Environment	avoid adverse effects on landscape character, biodiversity resources and designated sites, unless there are overriding reasons for development, no suitable alternatives exist, and appropriate mitigation or compensation can be provided. The policy further seeks the conservation, enhancement and BNG within Biodiversity Opportunity Areas, rivers and associated habitats, and through development proposals. Developments should maintain ecological corridors, avoid habitat fragmentation and contribute to the enhancement of green infrastructure, landscape character and biodiversity.
London Borough of Richmond Upon Thames Interim Adopted Local Plan 202622 *Policy 38 – Urban Greening* *Policy 39 – Biodiversity and Geodiversity* *Policy 40 - Rivers and River Corridors*	Policy 38 sets out that development proposals should incorporate green infrastructure and urban greening measures as an integral part of the design process. Major developments are required to achieve minimum UGF targets in accordance with the London Plan, whilst all developments should provide appropriate greening measures and demonstrate their long-term management. Policy 39 sets out that development proposals should protect and enhance biodiversity across the borough, including designated sites, priority habitats, protected species and ecological corridors. The policy requires development to deliver robust and measurable BNG, including a minimum 10% BNG where applicable. Adherence to the mitigation hierarchy is required. The policy further seeks to safeguard habitat connectivity, protect wildlife corridors and opportunities for access to nature. Policy 40 sets out that development proposals should protect and enhance the ecological, historic and landscape value of rivers and river corridors. Developments adjacent to watercourses should contribute to environmental improvements through habitat creation, biodiversity enhancement, improved water quality and the protection and enhancement of riverine environments. The policy

[22] London Borough of Richmond Upon Thames (2026). Richmond upon Thames Local Plan 'The best for our borough'
(2024 to 2039) . Available from: https://www2.richmond.gov.uk/docs/localplan/local_plan_interim_track_changes_for_adoption_october_2025.pdf (accessed on: 21/09/2026).

Relevant Policy	Relevance to assessment
	promotes the provision and enhancement of public access along rivers, whilst ensuring that development is sensitive to river ecology. Developments alongside river corridors should therefore seek opportunities to enhance habitats, support ecological connectivity.
Surrey Waste Local Plan 2020[23] *Policy 14 – Protecting Communities & the Environment*	Policy 14 sets out that waste development proposals should protect the environment and demonstrate compliance with national planning policy in relation to designated sites and biodiversity. The policy requires development to avoid unacceptable impacts on the natural environment, including designated sites, protected species and irreplaceable habitats. Development proposals must also consider potential effects on the water environment public amenity and recreation and address any cumulative impacts arising from development.
Berkshire Local Nature Recovery Strategy (LNRS) 2026[24]	LNRS will be used within the BNG assessment for the Proposed Development to assign a strategic significance to habitats. LNRS outline nature recovery actions across reach region. Each LNRS targets actions in locations where it is most critical to provide optimal environmental outcomes. The LNRS align nationally, to contribute in reversing the decline of biodiversity.
Buckinghamshire Local Nature Recovery Strategy 2026[25]	
Greater London Local Nature Recovery Strategy 2026[26]	
Surrey Local Nature Recovery Strategy 2026[27]	

[23] Surrey County Council (2020). Surrey Waste Local Plan Part 1 – Policies. December 2020. Available from: https://www.surreycc.gov.uk/__data/assets/pdf_file/0003/246882/2020-11-20-SWLP-Part-1-for-Adoption-Final.pdf (accessed on: 21/09/2026)
[24] Royal Borough of Windsor & Maidenhead Together (2026). Berkshire's Local Nature Recovery Strategy. Available from: https://rbwmtogether.rbwm.gov.uk/berkshire-local-nature-recovery-strategy (accessed on: 19/08/2026).
[25] Buckinghamshire Natural Environment Partnership (2026). Local Nature Recovery Strategy. Available from: https://bucksmknep.co.uk/nature-strategy/local-nature-recovery-strategy-for-buckinghamshire-and-milton-keynes/?preview=true (accessed on: 19/08/2026).
[26] Greater London Authority (2026). Local Nature Recovery Strategy. Available from: https://www.london.gov.uk/programmes-strategies/environment-and-climate-change/parks-green-spaces-and-biodiversity/local-nature-recovery-strategy (accessed on: 19/08/2026).
[27] Surrey County Council (2026). Local Nature Recovery Strategy. Available from: https://www.surreycc.gov.uk/land-planning-and-development/local-nature-recovery-strategy-lnrs (accessed on: 19/08/2026).

Table 6-2: Legislation relevant to the biodiversity assessment

Relevant Legislation	Relevance to assessment
Legislation - National	
The Environment Act 2021[28]	The Environment Act 2021 includes a target to halt the decline of nature by 2030. Schedule 15 of the Act mandates the delivery of an increase in biodiversity of at least 10% for NSIPs and provided guidance on how to present the delivery of BNG for NSIPs. The Act sets out that BNG is to be quantified using the Statutory Biodiversity Metric. BNG for NSIPs is introduced by Schedule 15 of the Act, which inserts Schedule 2A into the Planning Act 2008. The application must incorporate any available LNRS published for the county, which will determine the regional strategic delivery of offsite BNG. This Proposed Development will need to consider the LNRS published for at least Greater London, Berkshire, Surrey and Buckinghamshire and Milton Keynes. Further to the above, the Act sets out 13 environmental targets including, but not limited to, biodiversity, woodland and trees outside woodland and water. The Act also strengthens biodiversity duty of public bodies to consider conservation and enhancement of biodiversity in decision-making and undertaking their functions.
Conservation of Habitats and Species Regulations 2017[29]	These regulations transpose European Union (EU) legislation into national legislation, primarily deriving from the EU Habitats Directive and elements of the EU Wild Birds Directive. These regulations outline the designations and protection of European sites (Special Area of Conservation (SAC), Special Protected Area (SPA)

[28] UK Government (2021). Environment Act 2021. Published November 2021. Available from: https://www.legislation.gov.uk/ukpga/2021/30/contents (accessed on: 14/07/2026).
[29] UK Government (2017). The Conservation of Habitats and Species Regulations 2017. Published November 2017. Available from: https://www.legislation.gov.uk/uksi/2017/1012/contents (accessed on : 14/07/2026).

Relevant Legislation	Relevance to assessment
	and Ramsar site), and the protection of European Protected Species (EPS). There are ten European designated sites located within 20km of the Proposed Development. EPS may also be present within the Proposed Development. Therefore, these regulations are of relevance.
Wildlife & Countryside Act (W&CA) 1981[30]	The W&CA 1981 Act was enacted primarily to implement and amend existing legislation under the Birds Directive and Bern Convention. The Act is the primary piece of legislation providing protection for flora and fauna and Site of Special Scientific Interest (SSSI) in England and Wales. The Act also imposes restrictions on the release or escape of certain INNS into the wild. Schedule 9 of the Act lists the species for which specific restrictions apply and emphasis the assessment of whether the construction or operation activities could increase the risk of INNS.
Countryside & Rights of Way Act 2000	The Act provides conservation bodies authority to prevent damaging activities from occurring on SSSIs and requires public bodies to consult with statutory bodies (such as Natural England) prior to carrying out works on SSSIs. In addition, the Act outlines financial penalties for intentionally, or recklessly, damaging features of an SSSI. There are three SSSIs located within the Proposed Development, therefore this Act is of relevance.
The Natural Environment & Rural Communities (NERC) Act 2006	The NERC Act places a duty on any public body, or statutory undertaker, in England and Wales to "have regard" in conserving biodiversity. The Act places a requirement on the Secretary of State to publish a list of habitats and species of 'principal importance' for the conservation of biodiversity in England.

[30] UK Government (1981). Wildlife and Countryside Act 1981. Published October 1981. Updated July 2026. Available from: https://www.legislation.gov.uk/ukpga/1981/69 (accessed on: 14/07/2026).

Relevant Legislation	Relevance to assessment
	The Proposed Development may include habitats and species of principal importance; therefore, this Act is of relevance.
The Infrastructure Planning (Decisions) Regulations 2010	These regulations prescribe a list of matters to which the relevant decision-maker (either the Infrastructure Planning Commission or the Secretary of State) must have regard when taking decisions on applications for NSIPs. The regulations state "*When deciding an application for development consent the Panel or Council must have regard to the United Nations Environmental Programme Convention on Biological Diversity of 1992*". The UK's obligations under the 1992 convention are implemented through the UK Biodiversity Framework published in 2024.
The Hedgerows Regulations 1997	The Hedgerow Regulations make provision for the protection of 'important' hedgerows in England and Wales from damage or destruction.
Protection of Badgers Act 1992	The Act provides protection to badgers and the setts they live in. Protection covers the killing, injury, taking, ill-treatment, digging, intentional or reckless damage or access obstruction, causing a dog to enter a sett and disturbance whilst a badger is occupying a sett.
The Water Environment (Water Framework Directive (WFD)) (England and Wales) Regulations 2017 (SI 2017/407) (HMSO, 2017) NSIPs: Advice on the Water Framework Directive (WFD)[5]	The Water Environment (WFD) (England and Wales) Regulations 2017 transpose the requirements of the Directive 2000/60/EC into domestic legislation. The Regulations establish a framework for the protection and enhancement of the water environment, requiring consideration of impacts on rivers, estuaries, lakes, groundwater and coastal water bodies. Environmental objectives for individual water bodies are set out within River Basin Management Plans (RBMPs), including objectives to prevent deterioration in status and to achieve Good status where feasible. Where it is not possible to achieve Good status, alternative objectives may be established in accordance with the Regulations. The current status and objectives for each water body are reported in the relevant

Relevant Legislation	Relevance to assessment
	RBMP and form a key consideration in WFD assessments. The Planning Inspectorate's Advice on the Water Framework Directive provides guidance for NSIPs on demonstrating compliance with the 2017 Regulations. The guidance sets out the approach to assessing potential impacts on WFD water bodies, determining whether a project could cause a deterioration in status or compromise the achievement of water body objectives.
The Retained Invasive Alien Species Regulation (EU Regulation 1143/2014) and Invasive Alien Species (Enforcement and Permitting) Order 2019	The EU Invasive Alien Species Regulation was retained in domestic law after Brexit and now applies across Great Britain. The Regulation identifies and imposes restrictions on INNS of special concern, including measures to prevent introduction and spread of listed species. Developments involving water transfers, dredging, navigation, construction, landscaping, habitat creation, or material movements should assess whether they could facilitate spread of listed species.

Table 6-3: Guidance relevant to the biodiversity assessment

Relevant Guidance	Relevance to assessment
Guidance - National	
The UK Habitat Classification Version 2.0 manual[31]	Relevant national guidance for undertaking habitat surveys within the Study Area. It is noted that as of May 2026, Version 2.1 of the manual is currently under consultation which may supersede existing guidance if implemented. Should this be the case prior to submission of the DCO Application, the habitat data will be updated accordingly.

[31] UKHab Ltd (2023). UK Habitat Classification Version 2.0 (at https://www.ukhab.org)

Relevant Guidance	Relevance to assessment
Statutory Biodiversity Metric – Technical Annex 1: Condition Assessment Sheets and Methodology[32]	Relevant national guidance for undertaking baseline condition assessments for habitats (except watercourses) to inform a BNG Assessment, within the Study Area.
The MoRPh Survey Technical Reference Manual 2019 Version[33]	Relevant national guidance for undertaking baseline condition assessments for watercourses, referred to as 'MoRPh' to inform a BNG Assessment, within the Study Area.
Technical Advice Note 2, Otter Surveys[34]	Relevant national guidance for undertaking otter surveys within the Study Area, to identify signs / evidence of presence or likely absence.
The Water Vole Mitigation Handbook[35]	Relevant national guidance for undertaking water vole surveys within the Study Area, to identify signs / evidence of presence or likely absence. The guidance also sets out mitigation measures for water vole.
ARG UK Advice Note 5[36]	Relevant national guidance for undertaking Habitat Suitability Index (HSI) Assessments, to assess the suitability of waterbodies within 250 m of the Study Area, for GCN.
SureScreen Scientifics Sample Collection Methodology[37]	Specific company guidance, applicable nationally, for undertaking environmental DNA (eDNA) surveys, to collect water samples to establish presence or likely absence for GCN in waterbodies within 250 m of the Study Area.

[32] DEFRA (2026). Statutory biodiversity metric tools and guides. Available from: https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides (accessed on: 22/07/2026).
[33] Gurnell, A., England, J., Shuker, L., and Wharton, G. (2019). The MoRPh Survey Technical Reference Manual 2019 Version. Available from: https://modularriversurvey.org/wp-content/uploads/MoRPh-Manual-ver-11.pdf (accessed on: 22/07/2026).
[34] Scottish Borders Council (2017) Technical Advice Note 2, Otter Surveys. Available from: https://www.scotborders.gov.uk/downloads/file/2961/otters_technical_advice_note (accessed: 22/07/2026).
[35] Dean, M., Strachan, R., Gow, D. and Andrews, R. M. (2016). The Water Vole Mitigation Handbook (Mammal Society Mitigation Guidance Series).
[36] ARG UK (2010). Great Crested Newt Habitat Suitability Index ARG UK Advice Note 5. Published May 2010. Available from: https://www.arguk.org/info-advice/advice-notes/9-great-crested-newt-habitat-suitability-index-arg-advice-note-5/file (accessed 22/07/2026).
[37] SureScreen Scientifics (2026). Great crested newt eDNA sample collection guide. Available from: https://www.surescreenscientifics.com/blog/great-crested-newt-edna-sample-collection-guide/ (accessed 22/07/2026).

Relevant Guidance	Relevance to assessment
NVC Users' Handbook[38]	Relevant national guidance for undertaking detailed botanical National Vegetation Classification (NVC) surveys within the Study Area.
Hedgerow Survey Handbook 2nd Edition[39]	Relevant national guidance for undertaking hedgerow surveys within the Study Area, to determine if the hedgerow meets the criteria set out in the Regulations and if it is deemed to be an 'Important' hedgerow as per specific criteria set out in the Hedgerow Regulations Act 1997.
Bat Surveys for Professional Ecologist: Good Practice Guidelines 4th Edition[40]	Relevant national guidance for undertaking bat surveys, such as, but not limited to, Night-time Bat Walkovers (NBW), static monitoring, Ground Level Tree Assessments (GLTAs), Preliminary Roost Assessments (PRAs), emergence surveys, swarming surveys, hibernation surveys, aerial climbed tree surveys, Advanced licence bat survey techniques (ALBST), to assess trees, structures and entire Study Areas for their suitability, importance and presence or absence of bat species.
UK Bat Mitigation Guidelines[41]	Relevant national guidance for developments, to inform relevant mitigation requirements, changes to legislation and licensing procedures, and development of best practice in approaches to impact assessment.
Dormouse Mitigation Handbook[42]	Relevant national guidance for undertaking hazel dormouse surveys within the Study Area, to assess suitability, identify signs / evidence of presence or likely absence.

[38] Rodwell, J.S. (2006) NVC Users' Handbook, JNCC, Peterborough, ISBN 978 1 86107 574 1.
[39] DEFRA (2007). Hedgerow Survey Handbook A standard procedure for local surveys in the UK. Available from: https://assets.publishing.service.gov.uk/media/6863a03d08bf2f5376121a64/hedgerow-survey-handbook__corrected_01.07.25_.pdf (accessed on 22/07/2026).
[40] Collins, J. (ed.) (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust: London. ISBN-978-1-7395126-0-6.
[41] Reason, P.F. and Wray, S. (2025). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Version 1.2. Chartered Institute of Ecology and Environmental Management, Ampfield. Available from: https://cieem.net/wp-content/uploads/2023/09/Bat-Mitigation-Guidelines-2025-V1.2.pdf (accessed on: 19/08/2026).
[42] Wells, D., Chanin, P. and Gubert, L. (2025). *Dormouse Mitigation Handbook*. The Mammal Society.

Relevant Guidance	Relevance to assessment
Common Standards Monitoring (CSM) guidelines prepared by Natural England[43]	Relevant national guidance for undertaking terrestrial invertebrate surveys within the Study Area, through the design of a standardised survey methodology, to ensure that the surveys provide a fairly broad taxonomic coverage.
Monitoring the White-clawed Crayfish (WCC) - Conserving Natura 2000 Rivers[44]	Provides guidance on WCC monitoring methodologies.
UKTAG Environmental Standards GB Lake Fish eDNA Assessment Procedure[45]	Provides national guidance for undertaking eDNA surveys within still waters.

6.3 Stakeholder Engagement

6.3.1.1 Initial consultation has been undertaken as discussed within **Chapter 4: Approach to EIA.** Heathrow West will deliver technical consultation letters to relevant authorities, stakeholders and communities during EIA Scoping, in regard to biodiversity. From September 2026, technical consultation letters will be sent to the Environment Agency and Natural England to discuss various aspects including the proposed approach to data collection, survey methodologies, mitigation and assessment.

6.3.1.2 Stakeholder engagement is planned with primary consultees with statutory remit, including the Environment Agency, Natural England and relevant Local Planning and Highway Authorities.

6.3.1.3 The Environment Agency will be engaged with to discuss the proposed survey methodology and locations; discuss assessment of potential effects; discuss the approach to mitigation for Water Quality, WFD, Flood Risk, Flood Risk Assessment (FRA), EPS, HRA, Green Infrastructure design, BNG (particularly offsetting); principles for river diversions; seek consent for fisheries surveys (timing and location); seek consent for access to proposed survey locations (where necessary); and, engage with Thames Estuary 2100/TEAM2100.

[43] Drake, C. M., Lott, D. A., Alexander, K. N. A., and Webb, J. (2007). Surveying terrestrial and freshwater invertebrates for conservation evaluation. Published 11th December 2007. Available from: https://publications.naturalengland.org.uk/publication/36002 (accessed on 22/07/2026).
[44] Peay, S. (2003). Monitoring the White-clawed Crayfish *Austropotamobius pallipes*. Conserving Natura 2000 Rivers Monitoring Series No. 1. English Nature, Peterborough
[45] WFD UK advisory project (2008) report titled A tool for classifying the ecological status of lake fish in Britain based on eDNA metabarcoding

6.3.1.4 Natural England will be engaged with to discuss and agree proposed survey methodology and survey boundaries; discuss assessment of potential effects; and, to discuss and agree on the approach to mitigation for EPS, HRA, Green Infrastructure design, BNG (particularly offsetting).

6.3.1.5 Relevant Local Planning, Highway Authorities and Heathrow Strategic Planning Group (HSPG) will be engaged with to discuss the design and methodology and the mitigations identified; confirm design standards and guidance for drainage design; and, to proactively discuss and agree where possible a mitigation masterplan.

6.3.1.6 Stakeholder engagement is also planned with other consultees to discuss and agree, not limited to, the proposed methodology, EIA, mitigations identified and gain the support of the stakeholders. Stakeholders may also be engaged with fort he provision of gaining access for field surveys. Other consultees include Affinity Water, City of London Corporation, DEFRA, HSE and Health Authorities, National Highways, Thames Water, Bat Conservation Trust, Berks, Bucks and Oxon Wildlife Trust, Berkshire Local Nature Partnership, BugLife, Canal and Rivers Trust, Chilterns Conservation Board, Colne Valley Regional Park, Committee for Climate Change, Crane Valley Partnership, Green Infrastructure Department, Greater London Authority, Herts and Middlesex Wildlife Trust, Historic England, Historic Royal Palaces, London Bird Club, London Wildlife Trust, Surrey Local Nature Partnership, Surrey Wildlife Trust, Thames Valley Environmental Records Centre (TVERC), The Royal Parks, Various fisheries trusts and related landowners, Wildfowl & Wetlands Trust (WWT).

6.3.1.7 Other consultees, Buckinghamshire and Milton Keynes Environmental Records Centre, Greenspace Information for Greater London (GiGL), Surrey Biodiversity Records Centre and Thames Valley Environmental Records Centre (TVERC) will be engaged with to obtain biological records from within 2km buffer + 10km for bats, to inform the assessment.

6.4 Study Area

Study Area

6.4.1.1 The extent of the Biodiversity Study Area (Study Area) has been defined by the Scoping Boundary and any applicable buffer zones relevant to the biodiversity assessment. Each study topic has a defined topic study area, which contribute to the overall Study Area. A plan denoting the Biodiversity Study Area is shown in **Figure 6-1**.

6.4.1.2 At this stage, buffers have been applied to the Scoping Boundary to incorporate impact pathways, zones of influence (ZoI), professional judgement and best practice guidance for applicable study area topics. These are outlined in **Table 6-4** below.

Table 6-4: Biodiversity study area extents

Study topic	Primary guidance	Topic Study Area (Scoping Boundary plus applicable buffer zone)
Desk Study Area	Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Preliminary Ecological Appraisal[46]. CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland[47].	2km plus an additional 10km for bats, and 20km for European designated sites from Scoping Boundary.
Freshwater Fish Desk Study Area	As per Desk Study Area.	All hydrologically connected watercourses within approximately 2km of the Scoping Boundary, extending further where required to include fish migration barriers, abstraction/discharge points, or downstream receptors.
Terrestrial Ecological Field Survey (except great-crested newt, otter and water vole) Study Area	As per Desk Study Area. In addition to various detailed further in section 1.9.2.	50m from the Scoping Boundary.

[46] Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal Second Edition. Chartered Institute of Ecology and Environmental Management, Winchester. Published December 2017. Available from: https://cieem.net/wp-content/uploads/2019/02/Guidelines-for-Preliminary-Ecological-Appraisal-Jan2018-1.pdf (accessed on: 14/07/2026).
[47] Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.3. Chartered Institute of Ecology and Environmental Management, Winchester. Available from: https://cieem.net/wp-content/uploads/2018/08/EcIA-Guidelines-v1.3-Sept-2024.pdf (accessed on: 14/07/2026).

Study topic	Primary guidance	Topic Study Area (Scoping Boundary plus applicable buffer zone)
GCN Study Area	GCN Conservation Handbook[48] GCN mitigation guidelines[49].	All waterbodies within 250m of the Scoping Boundary.
Otter and Water Vole (*Arvicola amphibius*) Study Area	Technical Advice Note 2, Otter Surveys[50]. The Water Vole Mitigation Handbook[51].	50m from the Scoping Boundary. 250m both upstream and downstream for all watercourses within the Scoping Boundary.

[48] Langton, T.E.S., Beckett, C.L., and Foster, J.P. (2001), Great Crested Newt Conservation Handbook, Froglife, Halesworth. Available from: https://www.froglife.org/wp-content/uploads/2013/06/GCN-Conservation-Handbook_compressed.pdf (accessed on 14/07/2026).
[49] English Nature (2001). Great crested newt mitigation guidelines. Published August 2001. Available from: https://mokrady.wbs.cz/literatura_ke_stazeni/great_crested_newt_mitigation_guidelines.pdf (accessed on: 14/07/2026).
[50] Scottish Borders Council (2017). Technical Advice Note 2, Otter Surveys. Published January 2017. Obtained from: https://www.scotborders.gov.uk/downloads/file/2961/otters_technical_advice_note (accessed: on 14/07/2026).
[51] Dean, M et al. (2016). The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series). Eds Fiona Mathews and Paul Chanin. The Mammal Society, London.

Study topic	Primary guidance	Topic Study Area (Scoping Boundary plus applicable buffer zone)
Freshwater Fish Field Survey Study Area	As per Desk Study Area. Restoration of Riverine Salmon Habitats: A Guidance Manual[52]. Restoration of Riverine Trout Habitats: A Guidance Manual. Fisheries Technical Manual 1[53] BS EN 14011:2003, BS 6068-5.32:2003: Water quality - Sampling of fish with electricity[54]	The Study Area is centred on the Lower Colne catchment and includes 28 sites across the River Colne, Colne Brook, River Wraysbury, Longford River and Duke of Northumberland's River the Crane Rivers and Lakes Operational Catchment, together with their hydrologically connected tributaries and channels, including Horton Brook, Poyle Channel, Bigley Ditch, Stanwell Moor Ditch and the River Ash. These watercourses form an interconnected network that supports fish movement and ecological connectivity across the study area and includes the watercourses proposed to be diverted or otherwise modified as part of the Proposed Development.

[52] Hendry and Cragg-Hine (1997) Restoration of Riverine Salmon Habitats: A Guidance Manual.
[53] Summers et al, (1996) Restoration of Riverine Trout Habitats: A Guidance Manual. Fisheries Technical Manual 1, R&D Technical Report W118.
[54] British Standards Institution (2003) BS EN 14011:2003, BS 6068-5.32:2003: Water quality - Sampling of fish with electricity, London: BSI.

Study topic	Primary guidance	Topic Study Area (Scoping Boundary plus applicable buffer zone)
Macroinvertebrate and Macrophyte Field Survey Study Area	There is no specific guidance relating to macroinvertebrate and macrophyte buffer zones for developments. Environment Agency consultation was undertaken in September 2019 regarding river surveys (document reference: HWL-RHD-1000-GAE-TM-00011) in which survey scope was discussed. No issues were raised and the same sites were scoped in for 2026 along with some additional sites.	50m from Scoping Boundary. Upstream control and downstream impact sites on flowing waters were included. These were chosen primarily based on suitable distance upstream/ downstream and easily accessible locations.

6.4.1.3 Each Study Area will remain under review as the EIA progresses, with the Order Limits being refined for the ES.

6.5 Sources of Data used in Scoping

Baseline Data Collection

6.5.1.1 The collection of data to inform the biodiversity baseline is currently ongoing since June 2026. The baseline conditions outlined in **Section 1.6** are based on the data which is currently available. The baseline data collection is informed by a desk study, and field surveys. A plan denoting the various Biodiversity Survey Area is shown in **Figure 6-2**.

Desk Study

6.5.1.2 A desk study was undertaken to collate relevant existing ecological survey data, and to obtain historic records of protected and notable relevant species from within the Desk Study Area. The data sources used for the desk study scoping exercise are outlined in **Table 6-5** below.

6.1.1.6 The desk study includes information on designated sites and freely available records and European Protected Species Licenses (EPSLs) of protected and

notable species covering the entire Study Area. The desk study also includes historic information from previous field surveys, undertaken between 2017 – 2019. These field surveys covered accessible areas of both the 2018 HAL Study Area and 2020 HWL Study Area.

6.5.1.3 It is noted that the HAL DCO Project is different and unaffiliated with the Proposed Development. The HAL 2018 and 2025 EIA Scoping Chapters have solely been used in this baseline data collection to provide supplementary contextual baseline data on species and habitats that may be present within the HWL Study Area. APEM has commenced field surveys in 2026 within the HWL Study Area, to confirm our baseline data.

Table 6-5: Data sources used for scoping

Source	Relevance to the assessment
HAL Heathrow Expansion EIA Scoping Report 2018[55]	The HAL DCO Project is different and unaffiliated to the Proposed Development. The HAL EIA has been used in this Chapter to provide supplementary contextual baseline data on species and habitats present within the HAL Study Area.
HAL Heathrow Expansion Planning Inspectorate (PINS) Scoping Opinion 2018[56]	The HAL DCO Project is different and unaffiliated to the Proposed Development. The HAL PINS Scoping Opinion has been used to provide additional context given its geographical proximity and overlap in biodiversity receptors to the Proposed Development.

[55] HAL (2018). EIA Scoping Report. May 2018. Available from: https://nsip-documents.planninginspectorate.gov.uk/published-documents/TR020003-000457-HTHR%20-%20Scoping%20Report%20(Main%20Report).pdf (accessed on: 31/07/2026)

[56] Planning Inspectorate (2018). Scoping Opinion: Proposed Expansion of Heathrow Airport (Third Runway). Case Reference: TR020003. Available from: https://nsip-documents.planninginspectorate.gov.uk/published-documents/TR020003-000451-HTHR%20-%20Scoping%20Opinion.pdf (accessed on: 09/09/2026).

Source	Relevance to the assessment
HAL Heathrow Expansion EIA Scoping Report Addendum 2025[57]	The HAL DCO Project is different and unaffiliated to the Proposed Development. The HAL EIA Addendum has been used in this Chapter to provide supplementary contextual baseline data on species and habitats present within the HAL Study Area.
HAL Heathrow Expansion Planning Inspectorate Scoping Opinion 2025[58]	The HAL DCO Project is different and unaffiliated to the Proposed Development. The HAL PINS Scoping Opinion has been used to provide additional context given its geographical proximity and overlap in biodiversity receptors to the Proposed Development.
Heathrow West Chapter 8 Biodiversity Preliminary Environmental Information Report (PEIR)[59]	Relevant legislation, policy requirements and baseline survey data to inform assessment.
Multi-Agency Geographic Information for the Countryside (MAGIC) Maps[60]	Statutory and non-statutory land-based designations (International, national, regional, local), ancient woodland and EPSLs.
National Biodiversity Network (NBN) Atlas[61]	Provides freely available records of protected, notable and common species within the Desk Study Area.

[57] HAL (2025). EIA Scoping Report Addendum. Document Reference: 10000-XX-SY-XXX-100020. Date 01/09/2025. Available from: https://nsip-documents.planninginspectorate.gov.uk/published-documents/TR020003-001013-Heathrow%20EIA%20Scoping%20Report%20Addendum%20Main%20Text.pdf (accessed on: 31/07/2026).
[58] Planning Inspectorate (2025). Scoping Opinion: Proposed Expansion of Heathrow Airport (Third Runway). Case Reference: TR020003. Available from: https://nsip-documents.planninginspectorate.gov.uk/published-documents/TR020003-001028-2025%20Scoping%20Opinion.pdf (accessed on: 31/07/2026).
[59] Heathrow West (2020). *Heathrow West Chapter 8 Biodiversity Preliminary Environmental Information Report. Volume I.* HWL-RHD-1000-GHE-TA-00011, Rev 000. 19th February 2020.
[60] MAGIC Maps (2026). Available from: https://magic.defra.gov.uk/MagicMap.html (accessed on: 31/07/2026).
[61] National Biodiversity Network Atlas (2026). NBN Atlas. Available from: https://spatial.nbnatlas.org/# (accessed on: 18/08/2026).

Source	Relevance to the assessment
Woodland Trust Ancient Tree Inventory[62]	Provides information on notable / veteran and ancient trees within the Desk Study Area.
Environment Agency Ecology and Fish Data Explorer[63]	Provides an overview of fish species present within the Freshwater Fish Desk Study Area.
Ordnance Survey (OS) Basemap	Provides spatial information to support the assessment, identifying habitats including watercourses and waterbodies within the overall Study Area.
Aerial Imagery (Various e.g. Google Earth, Google Maps, Bing Maps, ESRI World Imagery)	Provides spatial information to support the assessment, identifying habitats including watercourses and waterbodies within the overall Study Area.

Field Surveys completed to date

6.5.1.4 It is noted that the HAL DCO Project is different and unaffiliated with the Proposed Development. The HAL 2018 and 2025 EIA Scoping Chapters have solely been used in this baseline data collection to provide supplementary contextual baseline data on species and habitats that may be present within the HWL Study Area (outlined in **Table 6-5**). APEM has commenced field surveys in 2026 within the HWL Study Area, to confirm our baseline data.

6.5.1.5 The field survey includes information based on surveys undertaken by APEM in 2026 for the HWL DCO Project, limited to accessible areas up to August 2026 within the relevant Study Area. A summary of these surveys is listed below:

- GCN Habitat Suitability Index (HSI) Assessment;
- GCN Environmental DNA (eDNA) Survey;
- UK Habitat (UKHab) Survey;
- BNG Baseline Condition Assessment;
- Otter Survey;
- Water Vole Survey;
- Freshwater Macroinvertebrate Survey; and,

[62] Woodland Trust (2026). Ancient Tree Inventory. Available from: https://ati.woodlandtrust.org.uk/ (accessed on: 19/08/2026).
[63] Environment Agency (2026). Ecology and Fish Data Explorer. Available from: https://environment.data.gov.uk/ecology/explorer/ (accessed on: 11/09/2026).

- Freshwater Macrophyte Survey.

GCN Habitat Suitability Index (HSI) Assessment

6.5.1.6 Habitat Suitability Index (HSI) Assessments were undertaken on 23rd June 2026 to assess the suitability of all accessible waterbodies within 250 m of the GCN Study Area in line with Amphibian and Reptile Group (ARG) UK Advice Note 5[64], as breeding and terrestrial habitat may be impacted through the proposed works. A HSI score is derived by allocating values to 10 different factors associated with the pond which are known to affect GCN. Some of the factors include the size of the water body, the water quality and macrophyte cover. These scores are used to calculate the overall HSI number between 0 and 1, with 0 being the least suitable to support GCN and 1 being the most suitable. A new methodology is currently under development[65], which may supersede existing guidance. Should this be the case prior to completing the HSI assessment, we will adopt the new methodology.

GCN Environmental DNA (eDNA) Survey

6.5.1.7 eDNA surveys were undertaken on 23rd June 2026 to determine presence or likely absence of all accessible waterbodies within 250 m of the GCN Study Area. The survey would be undertaken in line with SureScreen Scientifics Sample Collection Methodology[66]. An eDNA survey is a technique which can be used to detect GCN DNA in a waterbody and can be used to confirm presence or likely absence of GCN. It requires one daytime visit per waterbody (between 15th April and 30th June) to collect water samples, which are then tested in a laboratory for the presence of GCN DNA. The results are then returned with details of a positive or negative detection. If the waterbodies return a positive result, traditional GCN presence / absence and population surveys may be required between March - June. The eDNA surveys were undertaken by a licenced GCN ecologist.

UK Habitat (UKHab) Survey

6.5.1.8 UK Habitat (UKHab) surveys were undertaken along areas of public rights of way within the Terrestrial Ecological Field Survey Study Area, in line with The UK Habitat Classification Version 2.0 manual[67]. It is noted that as of May 2026, Version 2.1 of the manual is currently under consultation which may supersede existing guidance if implemented. Should this be the case prior to submission of the DCO Application, the habitat data will be updated accordingly. The UKHab field survey is ongoing, as of September 2026.

[64] ARG UK (2010). Great Crested Newt Habitat Suitability Index ARG UK Advice Note 5. Published May 2010. Available from: https://www.arguk.org/info-advice/advice-notes/9-great-crested-newt-habitat-suitability-index-arg-advice-note-5/file (accessed 22/07/2026).
[65] Seccombe, E. & Salguero-Gomez, R. (2024). An improved habitat suitability index for the great crested newt Triturus cristatus. Herpetological Journal 34(2) p55-67.
[66] SureScreen Scientifics (2026). Great crested newt eDNA sample collection guide. Available from: https://www.surescreenscientifics.com/blog/great-crested-newt-edna-sample-collection-guide/ (accessed 22/07/2026).
[67] UKHab Ltd (2023). UK Habitat Classification Version 2.0 (at https://www.ukhab.org)

Biodiversity Net Gain (BNG) Assessment

6.5.1.9 BNG baseline condition assessments were undertaken along areas of public rights of way within the Terrestrial Ecological Field Survey Study Area to inform the BNG Assessment that will be reported in an Outline Biodiversity Gain Plan that will be submitted with the DCO, using The Statutory Biodiversity Metric – Technical Annex 1: Condition Assessment Sheets and Methodology[68], unless superseded by a later version. The latest BNG policy for NSIPs, referred to in **Table 6-2**, outlines that habitats within the Order Limits that are considered 'unimpacted by the development' will not need to be included at the baseline, or BNG boundary, although applicants may choose to voluntarily include them. BNG condition assessments will be undertaken for all habitats at this stage, until it is understood the extent of habitats considered 'unimpacted'. The BNG baseline condition assessments are ongoing, as of September 2026.

6.5.1.10 BNG should be applied alongside the mitigation hierarchy. The mitigation hierarchy is the principle that ecological harm from a Proposed Development must first be avoided, adequately mitigated or, as a last resort, compensated for. The mitigation hierarchy is set out within the ANPS, and the draft HENPS (which will replace the ANPS once designated) and NPPF. The Outline Biodiversity Gain Plan required for the Proposed Development, will set out how the proposals follow the mitigation hierarchy. It is noted that the Biodiversity Gain Hierarchy, defined by the UK Government[69], does not apply to onsite irreplaceable habitats, which are covered under The Biodiversity Gain Requirements (Irreplaceable Habitats) Regulations 2024, which require wholly exceptional reasons and a suitable compensation strategy for any loss proposed. The Outline Biodiversity Gain Plan still requires information regarding how impacts upon irreplaceable habitat have been minimised and compensated for, if adverse effects are anticipated.

6.5.1.11 If a Proposed Development requires habitat mitigation or compensation activities (such as creation or enhancement) due to statutory obligations or policies, these activities may count towards no net loss (0%). Beyond this, 10% must be demonstrated separately to these activities. Activities which can contribute to no net loss, include:

- Nutrient neutrality or mitigation (including Sustainable Urban Drainage Systems (SuDs) when part of nutrient neutrality);
- Mitigation or compensation for protected species or sites;
- RBMP mitigation;
- Suitable Alternative Natural Green Space (SANG);
- EIA mitigation;

[68] DEFRA (2026). Statutory biodiversity metric tools and guides. Available from: https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides (accessed on: 22/07/2026).
[69] UK Government (2026). *Biodiversity net gain*. Available from: https://www.gov.uk/guidance/biodiversity-net-gain (accessed on: 21/09/2026).

- Mitigation or compensation associated with Functionally Linked Land (FLL); and,
- District Level Licensing (DLL) Schemes.

6.5.1.12 Activities which can count beyond no net loss, include:

- RBMP enhancement;
- Green Infrastructure; and,
- SuDs (when not part of nutrient neutrality).

Otter Survey

6.5.1.13 An otter survey was undertaken along areas of public rights of way (PRoW) associated with the River Colne and Wraysbury River within the Otter and Water Vole Study Area comprising upstream and downstream, with a survey corridor of at least 50m on each side of the waterbodies (where accessible from public rights of way) in line with Scottish Border Council Technical Advice Note 2, Otter Surveys[70]. During the survey, the suitability of the waterbodies and surrounding area to support otters were assessed and surveyors recorded any evidence of holts, feeding remains, slides, latrines, spraints and footprints. Particular attention was paid to features such as reed beds, stream islands, tree roots and rabbit holes. All field signs were noted during surveys, logging type, location, condition and age for later interpretation to distinguish any differences in habitat use and activity. Binoculars were used to assist in the clear identification of field signs if necessary. The otter field surveys are ongoing, as of September 2026.

Water Vole Survey

6.5.1.14 A water vole survey was undertaken along areas of PRoW associated with the River Colne and Wraysbury River within the Otter and Water Vole Study Area comprising both upstream and downstream, with a survey corridor of at least 50m on each side (where accessible from public rights of way), following a methodology derived from the Water Vole Mitigation Handbook[71]. The survey area was assessed for its suitability to support water vole, considering habitat characteristics, bordering land use, vegetation type, bank profiles, stream depth, width and flow. Surveyors also recorded potential pathways between suitable habitats and proposed construction activities. All accessible areas were inspected for signs of water vole activity, including latrines, runs, footprints, burrows and feeding stations. Field signs were recorded by type, location, condition and age to support interpretation of habitat use and activity. Binoculars were used where necessary to confirm field signs if necessary. The water vole field surveys are

[70] Scottish Borders Council (2017) Technical Advice Note 2, Otter Surveys. Available from: https://www.scotborders.gov.uk/downloads/file/2961/otters_technical_advice_note (accessed on: 22/07/2026).
[71] Dean, M., Strachan, R., Gow, D. and Andrews, R. M (2016). Water Vole Mitigation Handbook.

ongoing, as of September 2026, and will continue until the end of September 2026 in line with the optimal survey season.

Freshwater Aquatic Macroinvertebrate and Macrophyte Surveys

6.5.1.15 Aquatic macroinvertebrates were sampled in spring (May) and summer (July) 2026 at 15 locations on water courses of the Macroinvertebrate and Macrophyte Field Survey Study Area Standard three-minute pond-net samples were collected following the EA Operational Instruction 018_08 Issued 01/03/2017 which is compliant with WFD-UKTAG guidance[72]. Macroinvertebrate samples were preserved in 90% industrial methylated spirits solution (IMS) on site in advance of laboratory sorting and identification. Physical environmental variables were recorded on site to allow the use of the River Invertebrate Prediction and Classification System (RIVPACS), as specified in the River Invertebrate Classification Tool (RICT) manual[73].

6.5.1.16 Aquatic macrophytes were surveyed in summer (July) 2026 at 15 locations on water courses of the Macroinvertebrate and Macrophyte Field Survey Study Area (co-located with macroinvertebrate locations. Macrophyte surveys followed Lake and Equivalent Aquatic Flora Prediction and Classification System (LEAFPACS) survey methodology which is compliant with WFD-UKTAG guidance. Surveying established the presence of, and percentage of the river channel covered by, all macrophyte taxa present. Where it was not possible to identify a macrophyte present in the river to species level it was recorded under its genus or other aggregate taxon level where such was listed. Incidental records of bankside/ marginal invasive non-native plant species were also noted and recorded independently from the main aquatic macrophyte surveys.

6.6 Baseline conditions

Baseline Description

6.6.1.1 A comprehensive assessment of the baseline conditions in relation to designated sites, habitats and species is detailed within **Appendix 16-1**. The proceeding sections provide a brief overview of the baseline conditions within the respective Study Areas.

[72] WFD-UKTAG (2023). UKTAG River Assessment Method Benthic Invertebrate Fauna. Available from: https://www.wfduk.org/sites/default/files/River%20Invertebrates%20WHPT%20UKTAG%20Method%20Statement%20-%20updated%20July%202023.pdf (accessed on: 21/09/2026).
[73] Freshwater Biological Association (2026). RICT & RIVPACS User Guides. Available from: https://www.fba.org.uk/rivpacs-and-rict/rict-rivpacs-user-guides (accessed on: 21/09/2026).

Designated Sites

6.6.1.2 With regards to statutory sites, there are ten European designated sites, ten SSSIs and four Local Nature Reserves (LNR) located within the Desk Study Area. A plan denoting statutory and non-statutory designated sites is shown on **Figure 6-3**.

6.6.1.3 With regards to non-statutory sites, there are 41 SINCs from Greater Greenspace for London CIC (GiGL), 16 Sites of Nature Conservation Importance (SNCI) from Surrey Wildlife Trust (SWT), 16 Local Wildlife Sites (LWS) from TVERC, 6 Country Parks, and 51 parcels of Ancient Woodland, within the Desk Study Area.

6.6.1.4 Additional sites beyond the Desk Study Area may be included as appropriate for assessment at later stages of the EIA, if connectivity with impact pathways from the Proposed Development are established during the assessment process. These would also be assessed as part of the HRA process.

Habitats

6.6.1.5 The Terrestrial Ecology Field Survey Study Area includes grassland of varying qualities from reasonably high-quality NVC grasslands to heavily modified amenity grassland.

6.6.1.6 The Terrestrial Ecology Field Survey Study Area includes broadleaved and plantation woodland as well as broadleaved and mixed parkland habitats. An area of ancient woodland is present southeast of Richings Park Golf and Country Club. No ancient trees were identified, but 20 veteran trees and three notable trees are present.

6.6.1.7 The Terrestrial Ecology Field Survey Study Area includes both scattered and dense scrub.

6.6.1.8 The Terrestrial Ecology Field Survey Study Area includes approximately 108 waterbodies, comprising a mixture of lakes, ponds and ditches. Meanwhile, there are numerous watercourses, including, but not limited to, River Colne, Wraysbury River, Duke of Northumberland River, River Thames, Longford River, Frays River, River Ash, Staines Reservoir Aqueduct, Grand Union Canal, Yeading Brook, Horton Brook, Colne Brook, Datchet Common Brook and Mill Stream. The chalk geology should be noted; chalk rivers are globally rare ecosystems and therefore are a priority habitat.

6.6.1.9 The Terrestrial Ecology Field Survey Study Area includes swamp, marginal and inundation vegetation present. The swamp habitats comprising reedbeds around lake perimeters and isolated wetland areas. The largest of swamp habitat was present within Mayfield Farm and Water Treatment Works SINC. Marginal and

inundation habitats were identified in association with open and running water habitats, and a small area of wet woodland.

6.6.1.10 The remainder of habitats within the Terrestrial Ecological Field Survey Study Area are scattered trees, arable land, tall ruderal vegetation and urban habitats (such as the airport, buildings, bare ground, gardens, tracks and roads).

Species

6.6.1.11 Within the Desk Study Area, records were returned for protected and notable species, including bats (including Annex II species Barbastelle (*Barbastella barbastellus*)), water vole, otter, GCN, common amphibians, reptiles, badgers, terrestrial invertebrates (including two species protected under Wildlife & Countryside Act 1981), freshwater fish (including European eel (*Anguilla anguilla*) and European bullhead (*Cottus gobio*)), macrophytes and white-clawed crayfish (*Austropotamobius pallipes*).

6.6.1.12 Within Desk Study Area, records were returned of a total of 85 INNS, including Himalayan balsam (*Impatiens glandulifera*), Japanese knotweed (*Reynoutria japonica*) and Giant hogweed (*Heracleum mantegazzianum*).

6.6.1.13 Three EPSLs were returned as granted within the Desk Study Area, including 2014-5172-EPS-MIT for brown long-eared and soprano pipistrelle; 2019-39760-EPS-MIT for common pipistrelle; 2018-33297-EPS-NSIP1-1 for common and soprano pipistrelle; and, EPSM2013-5923 for common pipistrelle. One EPSL were returned as granted for GCN within the GCN Study Area, 2016-25615-EPS-MIT. Meanwhile, no EPSLs were returned as granted for hazel dormouse within the Desk Study Area.

6.7 Likely Significant Effects Requiring Assessment.

6.7.1.1 The EIA will consider the construction and operational phases of the Proposed Development. Details of each of these stages are set out in **Chapter 4: Approach to EIA**.

6.7.1.2 The Proposed Development is anticipated to form a permanent part of Heathrow Airport's infrastructure and operation. The majority of its components are expected to remain in place throughout the operational life of the airport and would be subject to routine inspection, maintenance, refurbishment, renewal and replacement, as necessary. Accordingly, a separate project-wide decommissioning phase is not currently anticipated for most elements of the Proposed Development and has been scoped out of the biodiversity assessment.

6.7.1.3 An activity–effect–receptor framework is applied within the EIA approach to identify and evaluate potential effects on biodiversity receptors arising from the

construction and operational phases of the Proposed Development. This approach defines:

- Activity: The origin source of a potential impact;
- Effect: The mechanism and pathway by which the impact may affect a receptor; and
- Receptor: The component of the environment that may be affected.

6.7.1.4 Following assessment utilising the CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.3, to ensure there is consistency across the ES, residual ecological effects will be aligned with the significance criteria used in other assessment chapters.

6.7.1.5 The table below outlines activities during construction and operational and associated effects upon biodiversity receptors as part of the Proposed Development, scoped in at this stage of design.

Table 6-6: Likely significant biodiversity effects

Activity	Effect	Receptor
Construction		
Temporary or permanent habitat loss, or change of use (e.g. compounds, earthworks, haul roads, terminal / runway development)	Habitat loss resulting in direct land take including within/adjacent to designated sites and of functionally linked land. Habitat loss resulting in habitat fragmentation or reduction in ecological connectivity leading to functional isolation of habitat patches. Habitats also important for seasonal movement, nesting, feeding, dispersal, roosting etc. Damage and/or deterioration of habitats through pollution of surface / ground water run-off, soil / root compaction, encroachment of retained habitat by machinery / personnel during works. Killing, injury and disturbance of flora and fauna (including qualifying features) through the during vegetation clearance, ground	Terrestrial and aquatic habitats including priority habitats. Terrestrial and aquatic flora and fauna including European protected species and INNS. Qualifying features of designated sites.

Activity	Effect	Receptor
	excavation or machinery movement within foraging, commuting and roosting, nesting and sheltering resources. Habitat loss may increase the risk of local extinction of flora and fauna. Introduction or spread of invasive species through the spread or introduction of contaminated spoil, and the movement of construction equipment and vehicles.	
Realignment/diversion/ modification of river/stream channels; loss or modification of lakes, ponds, drains, ditches and ephemeral channels due to construction activities	Freshwater habitat degradation and/or loss and/or reduction of geomorphological and flow diversity. Loss of ecological connectivity through severance of habitats resulting in fragmentation. A change in flow quantity and seasonal flow patterns particularly high flood events, may alter fish mitigation patterns for species reliant on these cues for upstream migration. Increased flow may also result in increased mortality of semiaquatic species. Potential interruption of fish passage routes and reduction in aquatic habitat connectivity, particularly for migratory species reliant on movement between the River Thames, connected watercourses and adjacent stillwater habitats. Killing or injury of fauna through the removal of occupied resting or breeding sites. Potential for reduction in sediment transport leading to alteration of downstream habitats and river habitat deposition features. Introduction or spread of invasive species, fish diseases, parasites and	Fish (including European eel and European bullhead). Recreational fisheries and angling interests. Freshwater macrophytes. Freshwater macroinvertebrates. Amphibians (including GCN). Otter. Water vole. INNS. White-clawed crayfish.

Activity	Effect	Receptor
	aquatic pathogens through the spread or introduction of contaminated spoil, water, equipment and vehicles. Changes to INNS fitness through the alteration of downstream habitats or habitat features.	
Construction of new culverts, bridges, river crossings, water management structures and associated channel diversions	Creation of temporary or permanent barriers to fish movement. Reduction in longitudinal aquatic connectivity and habitat availability through partial or complete obstruction of fish passage routes. Alteration of hydraulic conditions including flow velocity, water depth and turbulence, potentially affecting upstream and downstream movement of fish. Increased risk of habitat fragmentation and reduced connectivity between the River Thames, Upper and Lower Colne watercourse catchments and connected stillwater habitats. Potential effects may be particularly significant for migratory species reliant on movement between freshwater and marine environments.	Fish (including European eel and European bullhead) Freshwater habitats Freshwater macroinvertebrates
Modification of lakes, reservoirs, gravel pit lakes, ponds or hydrological connections with adjacent waterbodies	Loss, degradation or fragmentation of stillwater habitat. Alteration of water quality, water levels, habitat structure or connectivity between aquatic habitats. Potential effects on fish assemblages and recreational fisheries resources.	Fish (including European eel and European bullhead) Stillwater fisheries Aquatic habitats Terrestrial and aquatic flora and fauna including European protected species and INNS
Disturbance or displacement of species (e.g. due to noise, vibration, human	Disturbance and displacement of fauna (including qualifying features) through the during vegetation clearance, ground excavation or	Terrestrial and aquatic fauna including European protected species

Activity	Effect	Receptor
presence, plant and machinery movements)	plant and machinery movement within foraging, commuting and roosting, nesting and sheltering resources. Killing, injury of flora and fauna (including qualifying features) through the during plant and machinery movements.	Qualifying features of designated sites
Disturbance or displacement of nocturnal species (e.g. night-time lighting for security or during construction activities).	Increased night-time lighting may lead to habitat fragmentation or reduction in ecological connectivity leading to functional isolation of habitats and species populations. Night-time light spill leading to changes in foraging behaviour, displacement or isolation of habitats.	Bats Hazel Dormouse Badgers Otters
Increased vehicular traffic (e.g. construction activities, associated plant and machinery and due to delays and diversions)	Degradation or loss of vegetation communities and sensitive fauna through increased vehicle traffic movements. Airborne pollutants could lead to dust deposition, and nutrient enrichment which could result in acidification and eutrophication. Degradation by ground disturbance such as through soil compaction and root damage. Introduction or spread of invasive species through the movement of construction equipment and vehicles. Damage and/or deterioration of habitats through pollution of surface / ground water run-off from re-fuelling activities. Killing, injury of fauna (including qualifying features) through road traffic collisions.	Terrestrial and aquatic habitats including priority habitats Terrestrial and aquatic flora and fauna including European protected species INNS Qualifying features of designated sites

Activity	Effect	Receptor
Changes to water abstraction, discharge, storage during construction activities.	Potential decrease in water quality parameters such as dissolved oxygen and biochemical oxygen and/or flows at discharge/abstraction point resulting in changes to freshwater vegetation communities and the fauna these support Creation of flood storage areas offers opportunities for the creation of new wetland habitat areas. Changes to INNS fitness through the alteration or creation of favourable habitat or habitat features.	Fish (including European eel and European bullhead) Recreational fisheries and angling interests Freshwater macrophytes Freshwater macroinvertebrates Amphibians (including GCN) Otter Water vole White-clawed crayfish INNS
Construction/alteration of drainage to facilitate works in the freshwater environment.	Alteration to hydrology including surface water connections resulting in areas becoming wetter or drier, leading to changes to vegetation communities and the species this supports.	Fish (including European eel and European bullhead) Freshwater macrophytes Freshwater macroinvertebrates Amphibians (including GCN) Otter Water vole INNS White-clawed crayfish
Use of chemicals (e.g. fuels, de-icer, solvents etc.) and liberation of pollutants and fine material through excavation,	The introduction of toxic pollutants or sediments into the environment resulting in changes, loss or damage to terrestrial or freshwater	Terrestrial and aquatic habitats including priority habitats

Activity	Effect	Receptor
demolition or stockpiling or surface water flows during rainfall events.	environments and the fauna they support.	Terrestrial and aquatic flora and fauna including European protected species Qualifying features of designated sites
Operation		
Disturbance or displacement of species (e.g. due to increased operational noise, bird-scaring devices, vibration, human presence, plant, machinery, engine exhaust and aircraft movements)	Disturbance and displacement of fauna (including qualifying features) through the during vegetation management regimes, use of bird-scaring devices, plant and machinery movement within foraging, commuting and roosting, nesting and sheltering resources. Killing, injury of flora and fauna (including qualifying features) through the during plant and machinery movements including during vegetation management regimes.	Terrestrial and aquatic fauna including European protected species Qualifying features of designated sites
Disturbance or displacement of nocturnal species (e.g. night-time lighting for security or airport functionality).	Increased night-time lighting may lead to habitat fragmentation or reduction in ecological connectivity leading to functional isolation of habitats and species populations. Night-time light spill leading to changes in foraging behaviour, displacement or isolation of habitats.	Bats Hazel Dormouse Badgers Otters
Increased vehicular traffic (e.g. air traffic movements, airport staff, passengers, freight)	Degradation or loss of vegetation communities and sensitive fauna through increased vehicle traffic movements. Airborne pollutants could lead to dust deposition, and nutrient enrichment which could result in acidification and eutrophication.	Terrestrial and aquatic habitats including priority habitats Terrestrial and aquatic flora and fauna including European protected species

Activity	Effect	Receptor
	Degradation by ground disturbance such as through soil compaction and root damage. Damage and/or deterioration of habitats through pollution of surface / ground water run-off from re-fuelling activities. Killing, injury of fauna (including qualifying features) through road traffic collisions. Introduction or spread of invasive species.	Qualifying features of designated sites
Temporary or permanent habitat loss, or change of use (e.g. compounds, earthworks, haul roads, terminal / runway development)	Habitat loss resulting in direct land take including within/adjacent to designated sites and of functionally linked land. Habitat loss resulting in habitat fragmentation or reduction in ecological connectivity leading to functional isolation of habitat patches. Habitats also important for seasonal movement, nesting, feeding, dispersal, roosting etc. Damage and/or deterioration of habitats through pollution of surface / ground water run-off, soil / root compaction, encroachment of retained habitat by machinery / personnel during works. Killing, injury and disturbance of flora and fauna (including qualifying features) through the during vegetation clearance, ground excavation or machinery movement within foraging, commuting and roosting, nesting and sheltering resources. Degradation of vegetation communities through construction dust deposition and soil compaction.	Terrestrial and aquatic habitats including priority habitats Terrestrial and aquatic flora and fauna including European protected species Qualifying features of designated sites

Activity	Effect	Receptor
	Introduction or spread of invasive species through the spread or introduction of contaminated spoil, and the movement of construction equipment and vehicles. Changes to INNS fitness through the alteration of downstream habitats or habitat features.	
Operation and maintenance of modified watercourses, culverts, river crossings, flood management and drainage infrastructure	Long-term changes to flow regime, water levels and aquatic habitat connectivity. Potential restriction or delay of fish movement through modified channels and culverts. Reduced access to spawning, feeding and refuge habitats. Potential effects on migratory species and movements between the River Thames, connected watercourses and stillwater habitats.	Fish (including European eel and European bullhead) Freshwater habitats Freshwater macroinvertebrates
Use of chemicals (e.g. fuels, de-icer, solvents etc.) and liberation of pollutants and fine material through excavation, demolition or stockpiling or surface water flows during rainfall events.	The introduction of toxic pollutants or sediments into the environment resulting in changes, loss or damage to terrestrial or freshwater environments and the fauna they support.	Terrestrial and aquatic habitats including priority habitats Terrestrial and aquatic flora and fauna including European protected species Qualifying features of designated sites

6.8 Effects Not Requiring Assessment

6.8.1.1 All likely significant effects scoped in for the Proposed Development will further be considered upon collection and analysis of baseline data, and reviews of design. It is not necessary in the assessment to address all habitats and species with potential to occur in the relevant Study Area. Instead, the focus has been placed upon those that are "relevant" i.e. biodiversity features that are considered to be important and potentially affected by the Proposed Development. The CIEEM guidelines (2024) make clear that there is no need to "*carry out detailed assessment of ecological features that are sufficiently widespread, unthreatened*

and resilient to project impacts and will remain viable and sustainable". This does not mean that efforts should not be made to safeguard wider biodiversity and requirements for this have been considered. National and local planning policy documents emphasise the need to achieve net gains for nature and that a core principle for planning is that it should contribute to conserving and enhancing the natural environment and reducing pollution. These considerations will be applied in the ES and any preceding survey-specific reports.

Table 6-7: Potential effects to be scoped out of the biodiversity assessment

Activity	Effect	Receptor	Justification for scoping out
All listed in Table **6-6**.	Adverse effects, including cumulative effects.	Ecological features that are sufficiently widespread, unthreatened and resilient to Proposed Development impacts and will remain viable and sustainable. Ecological features that are of negligible, Site or local significance.	Ecological features that are considered widespread, unthreatened and resilient, or of negligible significance. The loss of ecological habitat features will be addressed within the BNG Assessment.
Decommissioning	All effects	All Biodiversity receptors	The Proposed Development is anticipated to form a permanent part of Heathrow Airport's infrastructure and operation. The majority of its components are expected to remain in place throughout the operational life of the airport and would be subject to routine inspection, maintenance, refurbishment, renewal and replacement, as necessary. Accordingly, a separate project-wide decommissioning phase is not currently anticipated for most elements of the Proposed Development and has been scoped out of the biodiversity assessment.

6.9 Proposed Approach to Assessment

6.9.1.1 The approach to the assessment of Important Ecological Features (IER) will be drawn from the baseline conditions at the Proposed Development as outlined in **Section 6.6** and will follow CIEEM guidelines[1]. Professional judgment will be applied using criteria as set out in the guidelines to determine the potential effects of the Proposed Development on ecological receptors and the significance of those effects.

6.9.1.2 There will be an assessment with primary and tertiary mitigation measures applied, and if there are likely significant effects, a further assessment will be undertaken with secondary mitigation applied to give the residual effect assessment.

6.9.1.3 A HRA will be produced under the Conservation of Habitats and Species Regulations 2017 as amended (known as the Habitats Regulations) and an Outline Biodiversity Gain Plan will be produced under Schedule 7A of the Town and Country Planning Act 1990 (as inserted by Schedule 14 of the Environment Act 2021) and Schedule 2A of The Planning Act 2008, (as inserted by Schedule 15 of the Environment Act 2021). Both assessments will be produced as separate documents as appendices to the ES.

6.9.1.4 Data received through consultation, desk-based assessments and field-based investigations will be used to allow the IER (including designated sites, ecosystems, habitat and species) of value (or potential value) to be identified and the main factors contributing to their value described and related to available guidance. Each ecological feature or resource will be subject to evaluation to assign a level of importance (or potential importance) within a defined geographical context using the following geographic scales of reference:

- International (i.e. European);
- National (i.e. England);
- Regional (i.e. South East England);
- County (i.e. Berkshire, Buckinghamshire, Greater London, Surrey);
- District (i.e. London Borough of Hillingdon, London Borough of Hounslow, Spelthorne Borough Council, Slough Borough Council, Buckinghamshire Council, The Royal Borough of Windsor and Maidenhead);
- Local (has value at the 'Site' level); and
- Negligible (used where the value is lower than the Site level).

6.9.1.5 In line with CIEEM guidelines, the level of impact of potential effects on IERs will be assessed in relation to criteria that defines the sensitivity of IERs which is determined based on individual species ecology and behaviour and the application of professional judgement. Criteria used to determine sensitivity of IERs are outlined in **Table 6-8**.

6.9.1.6 Together with sensitivity of IERs, the level of impact will be assessed in relation to the extent, magnitude, duration, timing, frequency, and reversibility of impacts.

The magnitude of impact will be determined by the size, amount, intensity and volume of the effect. Criteria used to determine magnitude are outlined in **Table 6-9**.

6.9.1.7 Consideration of both the sensitivity of IERs and the magnitude of impacts will take into account the duration of impacts, categorised as either temporary (short-term (0-5 years), medium-term (5-15 years) or long-term (15-25 years)) or permanent (>25 years).

6.9.1.8 The significance of effects will be determined following the process of identifying IERs and their sensitivity, and characterisation of impacts (positive or negative, extent, magnitude, duration, timing, frequency, and reversibility). Applying the criteria to each IER, the significance of effects is evaluated based on the importance of the IER in the context of the Proposed Development, the magnitude of the impact and the use of professional judgement in determining whether the integrity of IERs will be affected. Significance of effects will be considered for potential impacts identified at all stages of the Proposed Development, including construction and operation.

6.9.1.9 INNS will be assessed for how the Proposed Development may affect their potential for spread and overall fitness. An increase in fitness, even in the absence of increased capacity for spread, may still be considered beneficial to the taxon, particularly where this results in an additional pressure on native biota and socioeconomic receptors. Where INNS receptors are predicted to experience a significant beneficial effect, they will be assessed using the same classification scheme described below.

6.9.1.10 CIEEM guidelines refer to two categories to classify effects: ‘significant’ and ‘not significant’.

Table 6-8: Sensitivity criteria

Sensitivity	Criteria
High	Where a receptor has limited ability to respond to change (for example, where a community facility has limited capacity to respond to population or catchment change).
Medium	Where a receptor has some ability to respond to change.
Low	Where a receptor is particularly responsive to change or able to cope with change without substantial effects on existing status or viability.

Table 6-9: Magnitude criteria

Magnitude	Criteria
High	Where the effect has the potential to result in loss or substantial change to a receptor or resource (for example population, community facilities / social infrastructure and public services) at a given spatial scale.
Medium	Where the effect has the potential to result in noticeable change to a receptor or resource (for example population, community facilities / social infrastructure and public services) at a given spatial scale.
Low	Where the effect has a hardly perceptible change to a receptor or resource (for example population, community facilities / social infrastructure and public services) at a given spatial scale.
Negligible	Where the effect has no discernible change (e.g. within the margin of error) at a given spatial scale.

Table 6-10: Significance criteria

Level of effect		Criteria
Significant	Significant	Potential effects which will result in a very highly negative magnitude of impact on highly sensitive biodiversity features of generally, but not exclusively, international, national or regional importance. A change at a county scale site or feature may also enter this category.
	Major	Potential effects which will result in a highly negative magnitude of impact on highly or moderately sensitive biodiversity features of international, national or regional importance.
	Moderate	Potential effects which will result in a moderately negative magnitude of impact on moderately sensitive biodiversity features of national, regional or local importance.
Not significant	Minor	Potential effects which will result in a low negative magnitude of impact on moderately or low sensitive biodiversity features of regional, local or negligible importance.
	Negligible or no effect	Potential effects which will result in a negligible or no impact on low sensitive biodiversity features of local or negligible importance.

Additional Baseline Information Required

6.1.1.7 The baseline environment is not static and is expected to change over time, irrespective of the Proposed Development. When undertaking impact assessments, it is therefore necessary to consider potential effects in the context of the range of environmental changes that may occur in the absence of the Proposed Development over its operational lifetime. This future baseline will be defined at a later stage for the purpose of the EIA.

6.9.1.11 In relation to the current baseline, the future baseline will take into account anticipated future pressures, including those arising from ongoing anthropogenic activities and broader changes associated with climate change, such as rising temperatures and extreme weather events. Where relevant and where data are available, these considerations will be reflected in the assessment to ensure that potential effects are appropriately contextualised.

Terrestrial Ecology

6.9.1.12 Additional UKHab surveys will be undertaken within the Terrestrial Ecological Field Survey Study Area, in line with The UK Habitat Classification Version 2.0 manual[74]. Additional detailed botanical assessments will be undertaken as appropriate including NVC surveys and hedgerow regulations assessments. Walkover surveys for INNS will be also undertaken across the Study Area using a rapid assessment approach.

6.9.1.13 A suite of protected species survey will be undertaken within the respective Study Areas, including otter, water vole, GCN, bats, reptiles, hazel dormouse and terrestrial invertebrates, following respective best practice guidelines.

6.9.1.14 Survey methodology and rationale for the terrestrial ecology surveys are detailed within **Appendix 16-1**.

Freshwater Ecology

6.9.1.15 A suite of freshwater ecology species surveys will be undertaken within the respective Study Areas, including fisheries populations assessments and habitat walkovers, aquatic macrophytes, aquatic macroinvertebrates, pond and lake surveys, phytoplankton and white-clawed crayfish, following respective best practice guidelines.

6.9.1.16 Survey methodologies and rationale for the freshwater ecology surveys are detailed within **Appendix 16-1**.

Biodiversity Net Gain

6.9.1.17 A suite of BNG baseline condition assessments will be undertaken within the Terrestrial Ecological Field Survey Study Area to inform the BNG Assessment / Outline Biodiversity Gain Plan, using The Statutory Biodiversity Metric – Technical Annex 1: Condition Assessment Sheets and Methodology[75], unless superseded by a later version.

6.9.1.18 A Modular River Physical (MoRPh) survey will be undertaken on all applicable watercourses up to 50m from the Terrestrial Ecological Field Survey Study Area, in line with The MoRPh Survey Technical Reference Manual 2019 Version[76].

6.9.1.19 Survey methodology and rationale for the BNG assessments are detailed within **Appendix 16-1**.

[74] UKHab Ltd (2023). UK Habitat Classification Version 2.0 (at https://www.ukhab.org)
[75] DEFRA (2026). Statutory biodiversity metric tools and guides. Available from: https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides (accessed on: 22/07/2026).
[76] Gurnell, A., England, J., Shuker, L., and Wharton, G. (2019). The MoRPh Survey Technical Reference Manual 2019 Version. Available from: https://modularriversurvey.org/wp-content/uploads/MoRPh-Manual-ver-11.pdf (accessed on: 22/07/2026).

Cumulative Effects

6.9.1.20 Cumulative effects can either be additive/incremental (i.e. the spatial and temporal proximity of multiple activities or developments may result in a significant effect) and/ or associated/connected (i.e. different elements of a single development that may be authorised under separate consent processes). For biodiversity, it is anticipated that cumulative effects may arise from additive/incremental effects of multiple developments within proximity to the Proposed Development and cumulative effects associated/connected with other elements of the operational development. Where relevant information can be sourced for developments that are at the application stage, consented or under construction, these will be included.

6.9.1.21 Following the results of outstanding surveys and the EIA, a Cumulative Impact Assessment (CIA) will be completed on all biodiversity features that are identified as IERs within the EIA Report. The CIA will identify potential cumulative effects of the Proposed Development in combination with any other projects, see **Chapter 24: Approach to Cumulative and In-combination Effects**, which could result in a significant cumulative impact on IERs within a ZoI surrounding the Proposed Development. Whilst the distance of the ZoI is dependent on the IER, it is not anticipated to be more than 10km. However, the ZoI is also dependent on the nature of identified cumulative developments and the potential for cumulative likely significant effects.

In-Combination Effects

6.9.1.22 This Chapter should be read in conjunction with **Chapter 5: Air Quality and Odour, Chapter 7: Ornithology**, **Chapter 9: Climate Change**, **Chapter 15: Landscape and Visual Amenity, Chapter 20: Noise and Vibration** and **Chapter 22: Water Environment**.

6.9.1.23 Relevant pathways include habitat loss, habitat change, disturbance and displacement which may indirectly affect biodiversity features, which are also considered within **Chapter 5, Chapter 7** and **Chapter 22**.

Limitations and Assumptions

6.9.1.24 Ecological surveys are limited by factors such as the time of year, animal behaviour and weather conditions. All ecological surveys will be undertaken in accordance with best practice guidance, as set out in **Section 6.2**, unless superseded by later guidance. APEM will review the weather conditions predicted across the survey period, to ensure that poor weather conditions, relevant to each species-specific survey, do not pose a significant limitation (wherever possible). If prolonged periods of poor weather are predicted, adjustments to the survey approach will be made in line with relevant best practice and applying professional judgement.

6.9.1.25 Biological records can be received from a wide variety of sources and may or may not be comprehensive and accurate. However, if assessed in conjunction with survey data, they can contribute to a robust ecological assessment of the Site.

6.9.1.26 Whilst every effort has been made to provide accurate information based upon the desk study and available results of surveys undertaken in line with scientific guidance, within the limits of the resources available, there remain limitations in survey work of this nature. These include the possibility that ecological features were missed due to their absence at the time of the survey, or the year of survey and absence during surveys does not rule out the possibility of their being present at other times. Whilst these limitations will be reduced by a full suite of ecological surveys across the 2026/27 survey season, in line with best practice guidance, some residual survey constraints may remain. Where this occurs, any assumptions adopted within the assessment will be clearly identified and justified.

6.9.1.27 Based on the current project programme, all survey work is due for completion by the end of August 2027. It is considered that the available survey results, together with the habitat assessments and previous survey information, are anticipated to provide sufficient information to characterise baseline conditions. As such, the following autumn baseline survey effort are not currently programmed though the requirement for these surveys will be reviewed following completion of the main survey programme:

- Autumn bat activity surveys between September to October;
- Hazel dormouse surveys between September to October; and,
- Autumn terrestrial invertebrate surveys.

6.9.1.28 The approach to overcome any limitations or assumptions arising from the available survey information will be addressed through consultations with stakeholders and, where necessary, the adoption of precautionary assumptions and mitigation measures.

6.9.1.29 At this stage, the final extent of habitats to be scoped into the pre-development baseline based on those to be negatively impacted by the Proposed Development (through temporary or permanent habitat loss or deterioration), or the areas that will be used to contribute towards BNG through habitat enhancement or creation, is unknown. To overcome this, BNG baseline condition assessments are being undertaken across the wider Terrestrial Ecological Field Survey Study Area, to ensure sufficient information is available to support the EcIA and BNG Assessment.

6.9.1.30 It is anticipated there is a high likelihood of inaccessibility to the vast majority of buildings and structures within the Terrestrial Ecology Field Survey Study Area, to be able to undertake Preliminary Roost Assessments (PRA) or Hibernation Surveys. Based on the description of the proposed development presented in **Chapter 2: The Proposed Development**, it is anticipated that a large number of structures and buildings will be demolished to facilitate the works. Consultation with Natural England will therefore be undertaken to review the proposed survey and assessment approach and agree appropriate mitigation and compensation to

overcome any significant limitations posed by access constraints, with particular regard to roosting and hibernating bats.

6.9.1.31 The initial assessment of likely significant effects within this Chapter is based on a combination of desk study results and the results of baseline surveys completed to date. This includes a review of historic data previously collected at the Site and the results of baseline surveys completed to date in 2026. The majority of the proposed scope of surveys is due to commence within the optimal survey seasons within 2026/27.

6.9.1.32 Surveys that have been completed to date (the spring and summer macroinvertebrate surveys), were carried out within a survey area that was based on a previous, smaller scoping boundary. Since these surveys were completed, amendments have been made to the Site extent, with the resulting Site covering a larger area than surveyed to date. It is proposed that the remaining surveys cover the Proposed Development and relevant survey-specific buffers as outlined in **Section 6.4**. Consultation with stakeholders on the proposed scope of surveys will be undertaken commencing September 2026. However, it is anticipated that the area in which most of the Proposed Development infrastructure is proposed to be located will be much smaller than the extent of the Site. It is therefore considered that the scope of surveys, including completed surveys to date and the remaining surveys will be sufficient to inform an assessment of the potential effects of the Proposed Development on biodiversity.

6.9.1.33 Due to the large area covered by the Proposed Development and surrounding survey-specific buffers, it is expected that there may be areas that surveyors will not be permitted to access for surveys, or areas that may be inaccessible due to safety restrictions. However, much of the land within the Site is urban and contains an accessible network of public rights of way. It is therefore anticipated that where access is not permitted or is restricted, that surveyors will survey land as far as possible using the public rights of way and from areas where access is permitted. Where access is considered a significant limitation, in the absence of survey information, precautionary assumptions will be applied based on the available evidence and professional judgement. The nature of any assumptions adopted will be clearly stated within the assessment. This may include an approach such as assuming a 'worst-case' scenario, for example the application of 'Good' baseline habitat condition for the BNG Assessment.

6.10 Proposed Approach to Mitigation

6.10.1.1 In line with CIEEM good practice guidance, the proposed approach to mitigation will follow the mitigation hierarchy as outlined below. As the Proposed Development advances, the below measures will be reviewed and adjusted as necessary to ensure they remain appropriate, effective and compliant with regulatory standards and stakeholder input.

Avoidance

6.10.1.2 The first step in the mitigation hierarchy is to avoid potential effects altogether. As such, avoidance of potential effects will be considered during the design process of the Proposed Development via the collection of biodiversity survey data. During the design process, survey data will be used to inform how the Proposed Development infrastructure can be designed to avoid potential effects on biodiversity.

Primary Mitigation

6.10.1.3 Where avoidance of potential effects is not possible, the Proposed Development will consider primary (embedded) mitigation measures This section outlines any primary (embedded) mitigation measures that are assumed to be in place prior to undertaking an assessment of potential effects on biodiversity receptors. The Proposed Development will implement mitigation measures following best practice guidance ensuring compliance with relevant legislation, should the application be granted consent. Primary mitigation measures relevant to construction are outlined in **Table 6-11**;

Table 6-11: Primary mitigation measures relevant to the biodiversity assessment

Mitigation Measure	Rationale
Production and implementation of an Outline Construction Environmental Management Plan (OCEMP) in agreement with Natural England and the LPAs	To reduce the effect of potentially significant harmful effects on IERs in compliance with environmental legislation. The OCEMP will detail and formalise measures that will be implemented prior to and during construction of the Proposed Development to mitigate construction-related effects on IERs. A detailed Construction Environmental Management Plan (CEMP) will be produced in accordance with the OCEMP following the DCO to implement the measures outlined in the OCEMP for the scheme. Further details are provided in **Chapter 2: The Proposed Development**. Practical measures (both physical measures and sensitive working practices) to avoid or reduce impacts during construction, including method statements such as a Pollution Prevention Plan outlining measures to control and prevent pollution and a Drainage Management Plan outlining measures for the management of surface water and ground water;

Mitigation Measure	Rationale
	Species Protection Plans (SPPs), outlining specific measures to monitor and protect biodiversity features during construction;
Outline Landscape and Ecological Management Plan (OLEMP)	To provide a framework for the long-term management, protection and enhancement of habitats and landscape features associated with the Proposed Development, including reinstatement of temporary working areas and delivery of habitat creation and enhancements (where applicable). The OLEMP will set out high-level mitigation, enhancement and management measures to ensure that landscaping, ecological mitigation and BNG commitments are delivered, maintained and monitored appropriately throughout construction and into operation. The oLEMP will also set out information on the proposed planting strategy for the Proposed Development, including the consideration to selecting climate resilient species.
Sensitive Timing of Construction Activities	Where reasonably practicable construction activities will be scheduled to avoid disturbance to species during critical periods such as, but not limited to, bat hibernation period (November to February, inclusive), bat maternity period (May to August, inclusive), hazel dormouse hibernation period (late November to March, inclusive), hazel dormouse breeding period (June to September, inclusive), badger sett interference and disturbance closed season (December to June, inclusive), coarse fish spawning period (14th March to 15th June, inclusive) and salmonid spawning, egg incubation and fry emergence period (October to May, inclusive) (where salmonids and associated habitats are deemed present only).
Pollution Prevention and Surface Water Protection Measures	To adopt best practice measures for prevention of runoff, sedimentation, accidental spills or contamination of watercourses supporting otter, water vole, fish, aquatic macroinvertebrates and designated wetland features.
Invasive Species Biosecurity Protocol	To prevent spread of terrestrial and aquatic invasive non-native species during construction via plant,

Mitigation Measure	Rationale
	machinery, soils and water transfer. To align with legislative requirements.
Operational Environmental Management Plan (OEMP)	An outline version of the OEMP will be included within the DCO application providing details of specific commitments and how these will be secured.
Appointment of Ecological Clerk of Works (ECoW)	ECoWs will be present, when appropriate, during construction to oversee enabling works and ensure that works are carried out following good practice and comply with legislation. Toolbox talks will be delivered by the ECoW outlining the ecological sensitivities at the Proposed Development, particularly the location and status of any sensitive biodiversity features within the vicinity of planned works; and, Pre-construction surveys will be conducted by the ECoW prior to commencement of planned works including ground clearance and excavation works to check for evidence of protected and/or notable species and habitats to allow protection measures to be applied if required to prevent illegal disturbance, damage or destruction to protected and/or notable species and habitats.
Artificial Lighting	To minimise disturbance and displacement of nocturnal species, artificial lighting used during construction and operation will be kept to the minimum necessary. Where lighting cannot be avoided, for example, for health and safety reasons, it will be designed to minimise light spill onto IERs. Where practicable, motion-activated lighting will be used instead of permanent lighting, such as for security at construction compounds. As a result, during construction, artificial lighting is expected to be required only for short-duration night-time activities and, where necessary, for safety and security in specific locations.

Secondary Mitigation

6.10.1.4 Where additional (secondary) mitigation measures are required, these will be outlined within the EIA Report if a potential significant impact on an biodiversity feature is identified following assessment of potential effects. Where potential

effects on biodiversity receptors exist, detailed mitigation measures will be incorporated into an Operational Environmental Management Plan (OEMP) which will be implemented throughout the operational phase of the Proposed Development to ensure ongoing compliance with relevant environmental legislation.

Compensation and Enhancement

6.10.1.5 Additional mitigation measures may include habitat creation, habitat enhancement and/or long-term habitat management where required to avoid, reduce or compensate for effects on IORs. Where significant effects on designated sites or their qualifying biodiversity features are identified, mitigation and/or compensation measures will be developed in consultation with Natural England, the LPA and other relevant stakeholders.

6.10.1.6 BNG for the Proposed Development will be applied alongside the mitigation hierarchy. The Outline Biodiversity Gain Plan required for the Proposed Development, will set out how the proposals achieve 10% BNG, and follow the mitigation hierarchy. Where necessary the DCO will consider the inclusion of land required to ensure that BNG can be achieved, or off-site BNG provision sourced. The Outline Biodiversity Gain Plan will detail habitat compensation and enhancement measures incorporated into the design.

6.10.1.7 BNG also requires the demonstration of compliance with the 'trading rules', up to no net loss. The trading rules set out principles to compensate for the loss of habitat based on their type and distinctiveness. For example, the loss of 'high' distinctiveness habitat requires compensation in the form of replacing the same habitat type (or a higher band, for hedgerows specifically).

6.10.1.8 It is noted that the Biodiversity Gain Hierarchy, defined by the UK Government, does not apply to onsite irreplaceable habitats, which are covered under The Biodiversity Gain Requirements (Irreplaceable Habitats) Regulations 2024 which require wholly exceptional reasons and a suitable compensation strategy for any loss proposed. The Biodiversity Gain Plan will provide information regarding how impacts upon irreplaceable habitat have been minimised and compensated for, if adverse effects are anticipated.

6.11 Summary

Table 6-12: Elements scoped in/out of the biodiversity assessment

Discipline	Scoped In Elements	Scoped Out Elements
Biodiversity	Construction/Operation – Temporary or permanent habitat loss, or change of use	Decommissioning

Discipline	Scoped In Elements	Scoped Out Elements
	Construction – Realignment/diversion/modification of river/stream channels; loss or modification of lakes, ponds, drains, ditches and ephemeral channels Construction/Operation – Disturbance or displacement of species Construction/Operation - Disturbance or displacement of nocturnal species Construction/Operation – Increased vehicular traffic Construction – Changes to water abstraction discharge and storage Construction – Construction/alteration of drainage Construction/Operation – Use of chemicals and liberation of pollutants and fine materials	

Environmental Impact Assessment Scoping Report

Chapter 7

Ornithology

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7 Ornithology

7.1 Introduction

7.1.1.1 This Chapter of the Environmental Impact Assessment (EIA) Scoping Report has been prepared by APEM Limited (APEM Ltd) and sets out the likely significant effects of the Proposed Development on ornithological receptors, which will be reported in the Environmental Statement (ES).

7.1.1.2 Details of the scope of the ornithology assessment and the proposed approach to assessment, carried out in line with Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines[1], is provided in this Chapter. A summary of relevant policy, legislation and guidance, consultation and baseline conditions used to inform the scope of the assessment is also provided.

7.1.1.3 The identified potential effects of the Proposed Development on ornithological receptors (including statutory sites designated for ornithological features) that could result in impacts are predicted to include habitat loss and/or change, disturbance and/or displacement, collision risk and barrier effects.

7.1.1.4 The following international statutory sites designated for ornithological features are located within proximity to the Proposed Development: South West London Waterbodies Special Protection Area (SPA) and Ramsar site; and Thames Basin Heathes SPA. As the South West London Waterbodies SPA is adjacent to the Proposed Development, screening for Appropriate Assessment (AA) will be required in line with Habitats Regulations Assessment (HRA)[2]. The results and assessment presented within the ES will be used to inform a screening for AA, which will be completed separately.

7.1.1.5 This Ornithology Chapter should be read alongside **Chapter 6: Biodiversity**, **Chapter 20: Noise and Vibration** and **Chapter 22: Water Environment**.

7.1.1.6 This Chapter is supported by the following figures:

Figure 7-1: Ornithology Study Area;

Figure 7-2: Ornithology Survey Areas;

Figure 7-3: Statutory Sites Designated for Ornithology Features;

[1] Chartered Institute of Ecology and Environmental Management 2018. Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.3. Chartered Institute of Ecology and Environmental Management, Winchester.
[2] UK Government 2017. The Conservation of Habitats and Species Regulations. Available at: https://www.legislation.gov.uk/uksi/2017/1012/contents (accessed on: 20/08/2026)

Figure 7-4A-D: 2026 Breeding Bird Territories; **Confidential**

Figure 7-5: 2026 Red Kite Breeding Territory.

7.2 Policy, Legislation and Guidance

7.2.1.1 This section identifies the relevant policy, legislation and guidance which has informed the scope of the assessment presented in **Chapter 7: Ornithology**. Further information on the policies relevant to the EIA and their status is set out in **Chapter 1, Section 1.9: Policy, Legislation and Guidance**, which should be read in conjunction with this Chapter.

7.2.1.2 The policy, legislation and guidance relevant to the ornithology assessment are outlined in **Table 7-1** to **Table 7-3**. The principal policy and legislative framework relevant to biodiversity is described in **Chapter 6: Biodiversity, Section 6.2**. For brevity, only international conventions and legislation of particular relevance to the assessment of ornithological receptors are summarised below.

Table 7-1: Policy relevant to the ornithology assessment

Relevant Policy	Relevance to assessment
Policy – International	
Ramsar Convention on Wetlands 1971[3]	The Ramsar Convention promotes the conservation and sustainable use of internationally important wetlands. The South West London Waterbodies Ramsar site is located adjacent to the Proposed Development and supports internationally important wintering waterbird populations. Potential effects on the qualifying interests and ecological character of the Ramsar site will be considered within the ornithology assessment and will inform screening for AA.
Policy – National	
Airport National Policy Statement (ANPS) 2018[4]	This document, referred to as 'ANPS', sets out the national policies on biodiversity and nature conservation relevant to the airport expansions in

[3] Ramsar 1975. Convention on Wetlands of International Importance especially as Waterfowl Habitat. Available at: https://www.ramsar.org/ (accessed on: 20/08/2026)
[4] UK Government (2018). Airports National Policy Statement: new runway capacity and infrastructure at airports in the South East of England. Available from: https://assets.publishing.service.gov.uk/media/5b1794cded915d2cccc8d336/airports-nps-new-runway-capacity-and-infrastructure-at-airports-in-the-south-east-of-england-print-version.pdf (accessed on: 22/09/2026).

Relevant Policy	Relevance to assessment
	the South East of England, including specific references to Heathrow. The "Biodiversity and ecological conservation" section outlines the UK Governments' strategy and objectives towards restoring nature and improving environmental quality and security, with reference to underpinning legislation and policy. Paragraph 5.88 notes that netting of open watercourses may be required to manage the risk of bird strike, which may have a detrimental impact on water environment and biodiversity. Paragraph 5.89 describes how the applicant must clearly set out any likely significant effects of the works upon designated sites, habitats and protected species or those of principle importance. Paragraphs 5.92 and 5.93 describe the general principles the Secretary of State should consider for the Development Consent Order (DCO) application. These general principles include requirements that should be attached to any consents or planning obligations, mitigation measures between the applicant and Natural England including any relevant licences including protected species mitigation licences and whether they are granted, refused or intends to grant or refuse. Paragraph 5.94 outlines the applicant must address the mitigation hierarchy. Paragraph 5.95 outlines compensation ratios relating to the effects of the scheme, and how "*habitat creation, where required, should be focused on areas where the most ecological and ecosystems services benefits can be realised*." Paragraph 5.97 mentions that the Secretary of State must consider that "*appropriate weight is attached to designated sites of international, national and local importance, protected species, habitats and other species of principal importance for the conservation of biodiversity, and to biodiversity and geological interests within the wider environment.*" when deciding whether to grant a DCO.

Relevant Policy	Relevance to assessment
Draft Heathrow Expansion National Policy Statement (HENPS) 2026[5]	This draft document, referred to as 'draft HENPS', sets out the national policies on biodiversity and nature conservation relevant to the Heathrow airport expansion. The draft HENPS will replace the ANPS (mentioned above), once designated. The "Biodiversity and nature conservation" section outlines the UK Governments' strategy and objectives towards restoring nature and improving environmental quality and security, with reference to underpinning legislation and policy. Paragraph 5.155 notes that netting of open watercourses may be required to manage the risk of bird strike, which may have a detrimental impact on water environment and biodiversity. Paragraphs 5.156 describes how the applicant must consider direct and indirect impacts of the works upon habitats and protected species and the provision of proportionate environmental information on the likely impacts to biodiversity and nature. Paragraph 5.157 describes how the applicant must take advantage of opportunities to conserve and enhance biodiversity and geological conservation interests as well as consider how their proposal will deliver Biodiversity Net Gain (BNG). BNG is also described in paragraphs 4.50 and 4.51 and is underpinned by national policy "Nationally significant infrastructure projects: biodiversity gain statement for airports". Paragraphs 5.158 to 5.163 outlines elements the applicant must demonstrate to avoid direct or indirect harm or disturbance in line with the mitigation hierarchy. This also includes the potential for the delivery of strategic conservation measures that address specific environmental impacts of development on protected sites or species, where Environmental Delivery Plans (EDPs) have been implemented.

[5] UK Government (2026). Draft Heathrow Expansion National Policy Statement. Published June 2026. Updated June 2026. Available from: https://www.gov.uk/government/publications/draft-heathrow-expansion-national-policy-statement (accessed on: 22/09/2026).

Relevant Policy	Relevance to assessment
	Paragraphs 5.164 to 5.183 describe the general principles the Secretary of State should consider for the DCO application. These general principles include policies to avoid significant harm to biodiversity and geological conservation interests, climate change, mitigation and compensation measures and biodiversity net gain requirements. Paragraph 5.169 mentions that the Secretary of State must consider that "*appropriate weight is attached to: designated sites of international, national and local importance; irreplaceable habitats; protected species and habitats; other species of principal importance for the conservation of biodiversity; biodiversity and geological interests within the wider environment; and to areas prioritised for nature's recovery in the relevant local nature recovery strategies*" when deciding whether to grant a DCO.

Table 7-2: Legislation relevant to the ornithology assessment

Relevant Legislation	Relevance to assessment
Legislation – International	
Directive 2009/147/EC on the Conservation of Wild Birds (the Birds Directive)[6]	The Birds Directive provides the legislative framework for the conservation of all species of birds and provides legal protection for wild birds, their nests, eggs and habitats. This includes the classification and protection of SPAs The requirements of the Directive underpin the assessment of potential effects on protected bird species and internationally important bird populations within designated sites.
Legislation – National	

[6] Directive 2009/417/EC of the European Parliament and of the Council 2009. Available at: https://eur-lex.europa.eu/eli/dir/2009/147/oj/eng (accessed on: 20/08/2026).

Relevant Legislation	Relevance to assessment
Conservation of Habitats and Species Regulations 2017[2]	These Regulations provide protection for European sites, including SPAs, and establish the legal framework for HRA. Given the proximity of the South West London Waterbodies SPA/Ramsar site to the Proposed Development, the Regulations are a key consideration in assessing potential effects on qualifying bird populations and site integrity.

Table 7-3: Guidance relevant to the ornithology assessment

Relevant Guidance	Relevance to assessment
Guidance – International	
CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland[1]	Provides guidance on the process of undertaking EIA within the UK and has been used to form the proposed approach to assessment (**Section 7.9**).
Guidance – National	
Bird Survey Guidelines[7]	Provides general survey methods for the breeding and non-breeding season for birds within the UK and has been used to design an appropriate scope of ornithology surveys to inform the baseline conditions at the Site.
Raptors: a field guide to survey and monitoring[8]	Provides species-specific survey methods for a range of raptor and owl species present within the UK and has been used to design an appropriate scope of ornithology surveys to inform the baseline conditions at the Site.
Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. A report from MacArthur Green to NatureScot.[9]	Provides a range of disturbance buffer zones for sensitive species during breeding and non-breeding seasons. These buffer zones have been used to inform appropriate survey areas to inform the baseline conditions at the Site. Buffer zones will be considered to inform the assessment of potential

[7] Bird Survey & Assessment Steering Group 2026. Bird Survey Guidelines for assessing ecological impacts. Available at: https://birdsurveyguidelines.org/methods/survey-method/ (accessed on: 20/08/2026)
[8] Hardey J, Crick H, Wernham C, Riley H, Etheridge B and Thompson D 2013. Raptors: A Field Guide to Survey and Monitoring, 2nd Edition. TSO, Edinburgh.
[9] Goodship, N.M. and Furness, R.W. 2022. Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. A report from MacArthur Green to NatureScot.

Relevant Guidance	Relevance to assessment
	effects of disturbance and/or displacement on ornithological receptors whilst considering the mobility of aircraft across and beyond the Proposed Development.
Birds of Conservation Concern 5: the population status of birds in the United Kingdom, Channel Islands and Isle of Man[10]	Provides a summary of the population status of birds within the UK, including long-term and short-term trends of population increase and decline. The population and conservation status is used in the determination of the importance of ornithological receptors.
NatureScot guidance[11]	Provides survey methods for flight activity surveys and has been used to design an adapted approach to survey flight information of target species to assess the flight activity of ornithological receptors in relation to aircraft movement.

7.3 Stakeholder Engagement

7.3.1.1 An initial consultation letter was submitted to Natural England on 21 September 2026, providing details of the proposed scope of ornithology surveys and a summary of the results of surveys completed to date. At the time of submission of this Scoping Report, Heathrow West were awaiting a response from Natural England. In the absence of a response and agreement on the sufficiency of the proposed scope of ornithology surveys to inform an assessment of the potential effects of the Proposed Development on ornithological receptors, Heathrow West has applied a precautionary approach and continued with the proposed scope, outlined in **Section 7.4**.

7.3.1.2 It is anticipated that consultation to agree the proposed scope of ornithology surveys, assessment of potential effects and approach to mitigation, compensation and/or enhancement will be undertaken with further relevant primary stakeholders. Further primary stakeholders include the Local Planning Authority (LPA), Heathrow Strategic Planning Group (HSPG), London Borough of Hillingdon, and other relevant LPAs including London Boroughs of Hounslow, Ealing and

[10] Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. 2021. The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds 114: 723-747.

[11] NatureScot. 2025. Recommended bird survey methods to inform impact assessment of onshore windfarms. Available at: https://www.nature.scot/doc/recommended-bird-survey-methods-inform-impact-assessment-onshore-windfarms#7-8-wintering-and-migratory-waterfowl-especially-geese-and-swans (accessed on: 10/09/2026)

Richmond upon Thames, The Royal Borough of Windsor and Maidenhead, and Slough Borough Council.

7.3.1.3 Stakeholder engagement is also planned with other consultees to agree approach to mitigation, compensation and/or enhancement, including local environmental partnership groups, Berkshire Local Nature Partnership, Surrey Local Nature Partnership, and Crane Valley Partnership; wildlife conservation organisations, The RSPB, London Wildlife Trust, Berkshire, Buckinghamshire & Oxfordshire Wildlife Trust, Surrey Wildlife Trust, Herts & Middlesex Wildlife Trust, Wildfowl & Wetlands Trust; and the Colne Valley Regional Park and The Royal Parks.

7.4 Study Area

7.4.1.1 The Study Area comprises the Scoping Boundary and surrounding desk study and survey-specific buffers outlined in **Table 7-4**. These desk study and survey-specific buffers have been determined using relevant guidance and reflect the ecological characteristics of ornithological receptors likely to be recorded within the Scoping Boundary in order to incorporate potential impact pathways and likely Zones of Influence (ZoI). The Study Area, including desk study search areas and survey-specific buffers are shown in **Figure 7-1: Ornithology Study Area.**

Table 7-4: Ornithology study area extents

Study topic	Primary guidance	Buffer zone
Desk study	Chartered Institute of Ecology and Environmental Management (2018)[1]. Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.3.	10 km from the Scoping Boundary (25 km for geese and gulls)
Breeding bird surveys	Bird Survey Guidelines – Breeding bird survey methodology[7]	500 m from the Scoping Boundary
Breeding raptor surveys	Hardey, *et al.* (2013)[8] Goodship and Furness (2022)[9]	500 m from the Scoping Boundary
Barn owl (*Tyto alba*) surveys	Hardey, *et al.* (2013)[8] Goodship and Furness (2022)[9]	250 m from the Scoping Boundary

Study topic	Primary guidance	Buffer zone
Wintering bird surveys	Bird Survey Guidelines – Non-breeding walkover survey[7]	500 m from the Scoping Boundary
Winter waterbody surveys	Bird Survey Guidelines – Wetland Bird Survey[7]	Waterbodies within 1 km from the Scoping Boundary
Nocturnal winter waterbody surveys	Bird Survey Guidelines – Nocturnal bird surveys[7]	Waterbodies within 1 km from the Scoping Boundary
Flight activity surveys	NatureScot Guidance[11]	Selected waterbodies within 1 km from the Scoping Boundary

7.4.1.2 The survey extents presented in **Table 7-4** have been informed by relevant guidance and the currently understood impact pathways associated with the Proposed Development. As the design develops and consultation responses are received, including consultation with Natural England, the proposed survey scope and study areas will be reviewed and refined as necessary to ensure they remain proportionate and appropriate to inform the assessment of potential effects on ornithological receptors.

7.5 Sources of Data used in Scoping

7.5.1 Baseline Sources

Desk Study

Review of Historic Data

7.5.1.1 A desk study will be undertaken to collate relevant existing ornithological survey data and to obtain historic records of protected and relevant species from within the Study Area. A data search will be conducted to request existing ornithological records held within the Scoping Boundary and surrounding 10km from relevant organisations (see **Table 7-5**) for all species listed on:

- Annex I of the Birds Directive 2009[6];
- Schedule 1 of the W&CA 1981;
- Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006; and
- The UK Birds of Conservation Concern (BoCC) Red or Amber Lists[18].

7.5.1.2 Additionally, publicly available ornithological reports from developments within the vicinity of the Proposed Development will be consulted for relevant information.

Designated Sites

7.5.1.3 As part of the desk study, a web-based search will be undertaken to identify and provide information on statutory and non-statutory sites of nature conservation designated for ornithological features. The search will focus on the following sites:

- SPAs within 10km of the Scoping Boundary (within 25km for sites designated for geese and/or gulls);
- Ramsar sites (Ramsar Convention on Wetlands of International Importance) where waterfowl or waterfowl habitat are described as ecological features, within 10km of the Scoping Boundary (25km for geese);
- Sites of Special Scientific Interest (SSSIs) and Important Bird Areas (IBAs) within 5km of the Scoping Boundary;
- Local and National Nature Reserves (LNRs/NNRs), including RSPB reserves and Wildlife Trust reserves within 2km of the Scoping Boundary; and
- Local Wildlife Sites (LWSs) and proposed LWSs within 2km of the Scoping Boundary.

7.5.1.4 Additional records of LNRs, LWSs and any other locally designated sites will be requested within the data search for inclusion in the ES.

7.5.1.5 Where designated sites are present within the above search areas, functionally linked land associated with those designated sites will also be identified. Functionally linked land includes land that lies outside of the designated site boundary but contributes to the integrity of the designated site and its qualifying ornithological features (e.g. suitable foraging habitat outside of the designated site boundary that supports the qualifying features). Any functionally linked land identified for designated sites will be assessed together with the associated designated site.

7.5.1.6 Details of data sources used in the desk study and their relevance to the assessment are provided in **Table 7-5**.

Baseline Surveys

7.5.1.7 A programme of ornithological surveys of the Scoping Boundary and surrounding survey-specific buffers commenced in April 2026, comprising the following surveys:

- Breeding bird surveys (April to June 2026[12] and 2027);
- Breeding raptor surveys (April to June 2026[12] and 2027);
- Barn owl surveys (June and July 2027[13]);
- Wintering bird surveys (November 2026 to February 2027);
- Winter waterbody surveys (November 2026 to February 2027); and
- Nocturnal winter waterbody surveys (November 2026 to February 2027).

[12] The 2026 breeding bird and breeding raptor survey areas were based on a previous scoping boundary.
[13] No structures suitable for barn owl were identified within the 2026 survey area during the breeding raptor surveys. Therefore, barn owl surveys were not completed in 2026. The 2027 survey area based on the larger Scoping Boundary will be checked for suitable structures.

7.5.1.8 Details of baseline surveys, survey methodology and their relevance to the assessment are provided in **Table 7-5**. Ornithology survey areas are shown in **Figure 7-2: Ornithology Survey Areas**.

Table 7-5: Data sources used for scoping

Source	Relevance to the assessment[14]
Thames Valley Environnemental Records Centre (TVERC)	Provision of existing ornithological records within 10km of the Scoping Boundary.
Surrey Biodiversity Records Centre	Provision of existing ornithological records within 10km of the Scoping Boundary.
Buckinghamshire & Milton Keynes Environmental Records Centre	Provision of existing ornithological records within 10km of the Scoping Boundary.
Greenspace Information for Greater London	Provision of existing ornithological records within 10km of the Scoping Boundary.
London Bird Club	Provision of existing ornithological records within 10km of the Scoping Boundary.
British Trust for Ornithology (BTO) Wetland Bird Survey (WeBS)	Provision of existing waterfowl and wildfowl records within 10km of the Scoping Boundary.
Heathrow Expansion Limited (HAL) EIA Scoping Report[15]	Provision of contextual ornithological records from previous surveys undertaken of the Site and relevant information within and surrounding the Proposed Development.
HAL Scoping Report Addendum[16]	Provision of contextual ornithological records from previous surveys undertaken for previous Heathrow expansion proposals.
Multi-Agency Geographic Information for the Countryside (MAGIC) website[17]	Identification of statutory and non-statutory sites designated for ornithological features within the relevant search areas.

[14] Annex I = listed on the EC Birds Directive; Schedule 1 = listed on the W&CA 1981 (as amended); Section 41 = listed a species of principal importance on the NERC Act 2006; Red = listed on the UK BoCC Red List; and Amber = listed on the UK BoCC Amber List.
[15] Heathrow Airport Limited 2018. EIA Scoping Report, Volume 1 Main Report.
[16] Heathrow Airport Limited 2025. EIA Scoping Report Addendum.
[17] Multi-Agency Geographic Information for the Countryside (MAGIC) 2026. Available at: https://magic.defra.gov.uk/home.htm (accessed on: 20/08/2026).

Source	Relevance to the assessment[14]
Natural England Designated Sites View[18]	Provision of statutory and non-statutory designated site information and qualifying ornithological features.
Breeding bird surveys 2026 and 2027	Collection of up-to-date records of breeding birds within the Scoping Boundary and a surrounding 500m buffer, following guidance outlined on Bird Survey Guidelines[7]. In line with the guidance, six visits (approximately every two weeks) will be completed between April and July (inclusive) 2026 and 2027. Five visits will be undertaken during daylight hours, from dawn (approximately half an hour before sunrise) until 11 am. The remaining visit will be undertaken at dusk to observe and record crepuscular and nocturnal species.
Breeding raptor surveys 2026 and 2027	Collection of up-to-date records of breeding raptors and owls of conservation concern within the Scoping Boundary and a surrounding 500m buffer, following species-specific guidance outlined in Hardey *et al.* (2013)[8]. Four visits will be between April and July (inclusive) 2026 and 2027 to observe and record raptor and owl species using a combination of walkovers and ad-hoc watches within identified suitable habitat.

[18] Natural England 2026. Designated Sites View. Available at: https://designatedsites.naturalengland.org.uk/ (accessed on: 20/08/2026).

Source	Relevance to the assessment[14]
Barn owl surveys 2027[13]	Collection of up-to-date records of nesting or roosting barn owl within 250m of the Scoping Boundary, following guidance outlined in Hardey *et al*. (2013)[8]. Where structures and trees suitable for nesting or roosting are identified during the breeding bird and/or breeding raptor surveys, these will be checked for signs of occupancy such as presence of pellets and splash.
Winter walkover surveys 2026-2027	Collection of up-to-date records of non-breeding Annex I, Schedule 1, Section 41 and/or Red or Amber-listed[18] species within the Scoping Boundary and a surrounding 500m buffer, following guidance outlined on Bird Survey Guidelines[7]. In line with guidance, monthly visits will be completed between November 2026 and February 2027 (four visits in total). Surveyors will walk transects across the survey area to within 50m of all suitable habitat where accessible.
Winter waterbird surveys 2026-2027	Collection of up-to-date records of non-breeding Annex I, Schedule 1, Section 41 and/or Red or Amber-listed[18] species of waterfowl at waterbodies within the Scoping Boundary and a surrounding 1 km buffer, following an adapted WeBS methodology outlined on Bird Survey Guidelines[7]. In line with guidance, monthly visits will be completed between November 2026 and February 2027 (four visits in total). Surveyors will walk the perimeter of identified waterbodies (where accessible) and conduct ad-hoc watches to count waterfowl present on the water, adjacent shorelines, islands, emergent vegetation and surrounding habitats.

Source	Relevance to the assessment[14]
	The survey will focus on recording behaviour (roosting, loafing, foraging etc.) of ducks, geese, swans, grebes, coots, moorhen and gulls. However, behaviour of other species groups that are notable in the context of the Proposed Development, such as raptors and waders, will be recorded.
Nocturnal winter waterbird surveys 2026-2027	Collection of up-to-date records of non-breeding Annex I, Schedule 1, Section 41 and/or Red or Amber-listed[18] species of waterfowl at five waterbodies within the Scoping Boundary and a surrounding 1 m buffer, following an adapted WeBS methodology outlined on Bird Survey Guidelines[7]. The nocturnal winter waterbody surveys will follow the same methods as outlined above for the winter waterbody surveys with three visits completed between November 2026 and February 2027. However, the nocturnal surveys will take place between dusk and dawn and will focus on surveying the waterbodies most suitable for roosting birds (based on SPA designation or likely connectivity, habitat suitability, or area larger than 0.5km^2) within 1km of the Scoping Boundary. Surveyors will use night-vision optical equipment to record birds observed during low-light conditions. Birds will be recorded to species level, or to species group if identification to species level is not possible.
Flight activity surveys (FAS) 2026-2027	Collection of flight activity records of non-breeding Annex I, Schedule 1, Section 41 and/or Red or Amber-listed[18] species of waterfowl, following NatureScot guidance for assessing the impacts of onshore wind farms on birds[11]. The FAS will be conducted between November 2026 and February 2027

Source	Relevance to the assessment[14]
	(inclusive) and will broadly follow NatureScot guidance to collect information on target species flights including flock size, flight direction, behaviour and estimated flight height. Particular attention will be given to movements associated with qualifying ornithological features of the South West London Waterbodies SPA and other species considered to be sensitive to potential collision with aircraft. The FAS will focus on recording flight information of species at waterbodies considered likely to support significant roosts of wintering waterbirds of conservation concern. Surveys would comprise two-hour watches undertaken around dawn and dusk to coincide with peak periods of activity. Vantage points will be positioned at a location that provides clear views of likely movement corridors between the observed waterbodies and the Proposed Development. Surveyors will use night-vision optical equipment during low-light conditions.

7.5.1.9 The scope of surveys may be refined following consultation with statutory stakeholders and progression of the Proposed Development design.

7.6 Baseline conditions

7.6.1 Baseline Description

Desk Study

Review of Historic Data

7.6.1.1 The following publicly available ornithology surveys were completed for previous Heathrow expansion proposals, and together with more recent survey information collected for the Proposed Development, have been reviewed to provide contextual information on baseline conditions within the Study Area. The survey areas used for the previous Heathrow expansion proposals were not contiguous with the Scoping Boundary and Study Area of the Proposed Development, however the survey results provide context to the ornithological assemblage

present within the Study Area. The methods employed for some of these surveys are outlined in the HAL 2018 Scoping Report[15] and include:

- Breeding bird surveys (March to June 2017 and 2018);
- Breeding kingfisher surveys (April to August 2017 and 2018);
- Breeding little ringed plover surveys (April to July 2018);
- Waterbody wintering bird surveys (September to March 2014-15, 2015-16, 2016-17 and 2017-18);
- Terrestrial wintering bird surveys (September to March 2017-18 and 2018-19); and
- Disturbance and distribution surveys (September to March 2016-17 and 2017-18).

7.6.1.2 Results of the ornithology surveys listed above are presented within the HAL 2018 Scoping Report. The results are summarised in **Table 7-6**.

Table 7-6: Results of ornithology surveys completed up to 2018, outlined in the HAL 2018 Scoping Report

Survey	Dates	Results
Breeding bird survey	March to June 2017	Breeding territories were identified for 13 species of conservation concern[19] including lapwing (*Vanellus vanellus*), kingfisher (*Alcedo atthis*), skylark (*Alauda arvensis*), Cetti's warbler (*Cettia cetti*), starling (*Sturnus vulgaris*), song thrush (*Turdus philomelos*), mistle thrush (*Turdus viscivorus*), house sparrow (*Passer domesticus*), dunnock (*Prunella modularis*), grey wagtail (*Motacilla cinerea*), bullfinch (*Pyrrhula pyrrhula*), linnet (*Linaria cannabina*) and reed bunting (*Emberiza schoeniclus*).
Breeding kingfisher survey	April to August 2017	Kingfisher were recorded at all watercourses surveyed except one, the River Crane.

[19] Species of conservation concern are those listed on Annex I of the Birds Directive, Schedule 1 of the W&CA 1981 (as amended), Section 41 of the NERC Act 2006 and/or the UK BoCC Red or Amber Lists.

Survey	Dates	Results
Wintering bird survey – waterbodies	September to March 2014-15, 2015-16 and 2016-17	Shoveler (*Spatula clypeata*) and gadwall (*Mareca strepera*), listed as qualifying features on the South West London Waterbodies SPA, were recorded during each survey year. It was noted that shoveler were regularly recorded at Staines Reservoir across survey years, whereas gadwall were more commonly recorded at Kingsmead, Colne Mere and Horton South. Eight other species, listed as qualifying features of associated SSSIs were also recorded each survey year: pochard (*Aythya ferina*), tufted duck (*Aythya fuligula*), goldeneye (*Bucephala clangula*), smew (*Mergellus albellus*), goosander (*Mergus merganser*), great crested grebe (*Podiceps cristatus*), black-necked grebe (*Podiceps nigricollis)* and cormorant (*Phalacrocorax carbo*).
Disturbance and distribution survey	September to March 2016-17	Throughout the survey period, a total of 4,204 flights were recorded of aircraft crossing directly over the surveyed waterbodies, with 29 reported to have resulted in a detectable disturbance response. Of the 29 disturbance events, shoveler and gadwall were disturbed during a single event, with pochard, tufted duck, coot (*Fulica atra*), great crested grebe and cormorant disturbed occasionally. It was noted that disturbance events related to recreational activities such as walking, jogging, angling or bird watching resulted in more frequent detectable disturbance to birds.

Designated Sites

7.6.1.3 Fourteen statutory sites designated for ornithological features or citing ornithological interest were identified within the search areas surrounding the Scoping Boundary (outlined in **Section 7.5**), details of which are provided in **Table**

7-7. Statutory sites designated for ornithological features are shown on **Figure 7-3: Statutory Sites Designated for Ornithological Features**.

Table 7-7: Statutory sites designated for ornithological features within 10 km of the Scoping Boundary (25 km for geese or gulls)

Designated Site	Designation	Distance and direction from the Designated Site (at closest point)	Qualifying features
South West London Waterbodies	SPA Ramsar site	0km 0km	Non-breeding species: • Shoveler; and • Gadwall.
Staines Moor[20]	SSSI	0km	Breeding species: • Lapwing (Vanellus vanellus); • Yellow wagtail (*Motacilla flava*); and • Meadow pipit (*Anthus pratensis*). Non-breeding species: • Garganey (*Spatula querquedula*); • Shoveler; • Wigeon (*Mareca penelope*); • Teal (*Anas crecca*); • Pochard; • Tufted Duck; • Goldeneye; • Goosander; • Great crested grebe; • Golden plover (*Pluvialis apricaria*); • Ruff (*Calidris pugnax*); • Dunlin (*Calidris alpina*); • Snipe (*Gallinago gallinago*); • Redshank (*Tringa totanus*); and • Short-eared owl (*Asio flammeus*). Species recorded on passage:

[20] Component of South West London Waterbodies SPA and Ramsar site.

Designated Site	Designation	Distance and direction from the Designated Site (at closest point)	Qualifying features
			• Hen harrier (*Circus cyaneus*); and • Buzzard (*Buteo buteo*).
Wraysbury Reservoir[20]	SSSI	0km	Non-breeding species: • Shoveler; • Gadwall; • Great crested grebe; and • Cormorant.
Wraysbury and Hythe End Gravel Pits[20]	SSSI	0km	Breeding species: • Shelduck; • Pochard; • Redshank; • Kingfisher; • Reed warbler (*Acrocephalus scirpaceus*); and • Grasshopper warbler (*Locustella naevia*). Non-breeding species: • Mandarin duck (*Aix galericulata*); • Gadwall; • Wigeon; • Pochard; • Tufted duck; • Goldeneye; • Smew; and • Goosander.
Wraysbury No 1. Gravel Pit[20]	SSSI	0km	Notified for non-breeding gadwall. Other non-breeding species: • Shoveler; • Pochard; • Tufted duck; • Goldeneye; • Smew; • Coot;

Designated Site	Designation	Distance and direction from the Designated Site (at closest point)	Qualifying features
			• Great crested grebe; and • Cormorant. Also supports woodland species including: • Great spotted woodpecker; • Hobby (*Falco subbuteo*); • Garden warbler (*Sylvia borin*); and • Treecreeper (*Certhia familiaris*).
Langham Pond	SSSI	0.64km south	Supports a breeding bird assemblage including: • Cuckoo (*Cuculus canorus*); • Lesser-spotted woodpecker (*Dryobates minor*); • Great spotted woodpecker (*Dendrocopos major*); • Green woodpecker (*Picus viridis*); • Kestrel (*Falco tinnunculus*); and • Nuthatch (*Sitta europaea*).
Thorpe Park No 1. Gravel Pit[20]	SSSI	2.63km south	Non-breeding species: • Gadwall; • Goldeneye; and • Smew.
Windsor Forest and Great Park	SSSI	2.8km southwest	Woodland supports hawfinch (*Coccothraustes coccothraustes*).
Kempton Park Reservoirs[20]	SSSI	1.3km south	Notified for non-breeding gadwall. Other non-breeding species: • Garganey; • Shoveler; • Smew; • Spotted crake (*Porzana porzana*);

Designated Site	Designation	Distance and direction from the Designated Site (at closest point)	Qualifying features
			• Avocet (*Recurvirostra avosetta*); • Lapwing; • Ringed plover (*Charadrius hiaticula*); • Little ringed plover (*Charadrius dubius);* • Temmink's stint (*Calidris temminckii);* • Red-necked phalarope (*Phalaropus lobatus*); and • Redshank.
Syon Park	SSSI	2.48km east	Wet grassland and riparian woodland support snipe and grey heron (*Ardea cinerea*).
Fray's Farm Meadows	SSSI	2.64km north	Meadows support wintering shoveler, teal, lapwing, jack snipe (*Lymnocryptes minimus*) and snipe.
Black Park	SSSI	2.88km northeast	Open heathland, scrub and woodland support a variety of breeding and wintering birds, including sparrowhawk (*Accipiter nisus*), coal tit (*Periparus ater*), firecrest (*Regulus ignicapilla*), goldcrest (*Regulus regulus*), treecreeper and tree pipit (*Anthus trivialis*). Nightjar (*Caprimulgus europaeus*) and hobby have also been recorded.
Mid Colne Valley	SSSI	4.88km north	Woodland, scrub, grassland and fen support a variety of breeding and wintering birds, including greylag goose (*Anser anser*), mute swan (*Cygnus olor*), shoveler, gadwall, pochard, tufted duck,

Designated Site	Designation	Distance and direction from the Designated Site (at closest point)	Qualifying features
			coot, little ringed plover, cormorant, tawny owl (*Strix aluco),* kingfisher, kestrel, lesser whitethroat (*Curruca curruca*) and nuthatch.
Thames Basin Heaths	SPA	5.77km south	Breeding species: • Nightjar; • Woodlark (*Lullula arborea*); and • Dartford warbler (*Curruca undata*).

7.6.1.4 LNRs are also present within 2 km of the Scoping Boundary, including London Wildlife Trust LNRs, Huckerby's Meadows, Frays Island and Mabey's Meadow, The Grove, Yeading Brook Meadows, Crane Park Island; and Surrey Wildlife Trust LNR, Thorpe Hay Meadow.

7.6.1.5 The South West London Waterbodies SPA and Ramsar site, together with their constituent SSSIs, are anticipated to represent the principal designated ornithological receptors for the Proposed Development. These sites are located adjacent to the Scoping Boundary, support internationally and nationally important populations of wintering waterbirds, including the SPA qualifying species shoveler and gadwall, and are considered most likely to have ecological pathways connecting them to the Proposed Development. Accordingly, these sites are expected to form the primary focus of the ornithology assessment and Habitats Regulations Assessment.

Baseline Surveys

7.6.1.6 The first year of breeding season surveys, comprising breeding bird and breeding raptor surveys were completed in June 2026. As shown on **Figure 7-2**, the 2026 breeding bird and breeding raptor surveys were completed within a survey area that does not cover the full Scoping Boundary, due to amendments to the design of the Proposed Development. However, the survey area covered the core habitats of interest within and adjacent to much of the Scoping Boundary which are considered to be representative of the breeding bird assemblage within the Scoping Boundary.

7.6.1.7 Following the breeding bird surveys, territory analysis identified breeding territories for 27 birds of conservation concern[19]. A summary of identified breeding territories

is presented in **Table 7-8**. Breeding territories are shown on **Figure 7-4A-D: 2026 Breeding Bird Territories**.

Table 7-8: Results of the 2026 breeding bird surveys

Species	No. breeding territories	Conservation status[14]
Gadwall	3	Amber
Mallard (*Anas platyrhynchos*)	34	Amber
Pochard	3	Red
Swift (*Apus apus*)	1	Red
Cuckoo	3	Section 41, Red
Stock dove (*Columba oenas*)	4	Amber
Woodpigeon (*Columba palumbus*)	81	Amber
Moorhen (*Gallinula chloropus*)	21	Amber
Lapwing	1	Section 41, Red
Black-headed gull (*Chroicocephalus ridibundus*)	1	Amber
Common tern (*Sterna hirundo*)	1	Annex I, Amber
Skylark	17	Section 41, Red
House martin (*Delichon urbicum*)	1	Red
Cetti's warbler	43	Schedule 1
Sedge warbler (*Acrocephalus schoenobaenus*)	3	Amber
Whitethroat (*Curruca communis*)	81	Amber
Wren (*Troglodytes troglodytes*)	286	Amber
Starling	26	Section 41, Red
Song thrush	70	Section 41, Amber

Species	No. breeding territories	Conservation status[14]
Mistle thrush	3	Red
House sparrow	20	Section 41, Red
Dunnock	37	Section 41, Amber
Grey wagtail	1	Amber
Meadow pipit	3	Amber
Greenfinch (*Chloris chloris*)	31	Red
Linnet	25	Section 41, Red
Reed bunting	6	Section 41, Amber

7.6.1.8 During the breeding raptor surveys, five raptor species were recorded: marsh harrier (*Circus aeruginosus*), red kite (*Milvus milvus*), kestrel, hobby and peregrine (*Falco peregrinus).* Of these, red kite were confirmed to have bred, with a single territory identified, shown on **Confidential Figure 7-5: 2026 Breeding Red Kite Territory**.

Future Baseline Conditions

7.6.1.9 Given that the Proposed Development is located within a highly changeable environment, baseline conditions are expected to be likely to change over time. Long-term changes to future baseline conditions cannot be reliably predicted at this stage, however, the ornithology assessment will be undertaken with consideration of factors that may influence future baseline conditions in the absence of the Proposed Development, including climate change, shifts in species and habitat distribution and future changes in land use.

7.7 Likely Significant Effects Requiring Assessment

7.7.1.1 The principles of proportionate EIA state that EIA should concentrate on significant effects rather than all effects. In order to ensure that the ES is compliant with the EIA Regulations, the ornithology assessment will focus on potentially significant effects only during construction and operation of the Proposed Development. As the operational phase of the Proposed Development is expected to be permanent (>25 years in duration), the potential effects of decommissioning cannot be reliably predicted at this stage. As such potential effects of decommissioning have been scoped out of the ornithology assessment.

7.7.1.2 The anticipated potential effects of the Proposed Development on ornithological receptors include:

- Habitat loss due to land-take: activities such as ground clearance, demolition, earthworks, and construction of infrastructure will lead to direct habitat loss. The effects of habitat loss will depend on the extent of land-take and the habitat affected.
- Habitat change due to modification of land: accumulation of pollutants from increased air traffic, road traffic and vehicles supporting the operation and maintenance of additional airport infrastructure may lead to a change in the quality of available habitat within and surrounding the Proposed Development.
- Disturbance and/ or displacement: activities associated with construction, demolition, operation and decommissioning of the Proposed Development such as increased vehicle traffic (road and air), will increase auditory stimuli (noise, including vibration and use of deterrents) and visual stimuli (increased lighting and volume and frequency of human activities) which may cause disturbance and/or displacement.
- Collision risk: increased air traffic and additional aircraft flight paths may increase the risk of collision with moving aircraft during take-off and landing. The risk of collision to individual species depends on species ecology and behaviour, in addition to the direction and height of aircraft flight paths.
- Barrier effects: during the operational phase of the Proposed Development, permanent habitat loss and/or change, and permanent displacement may lead to barrier effects for some species. The extent of barrier effects depends on species ecology and behaviour, including sensitivity to ongoing disturbance during the operational phase and use of available habitat surrounding the Proposed Development for breeding, roosting or foraging.

7.7.1.3 As the ornithology survey programme is ongoing, it is deemed appropriate that all breeding and non-breeding birds of conservation concern[19], and statutory designated sites that list qualifying ornithological features of conservation concern, are scoped into the assessment at this stage (see **Table 7-9**), unless justification to scope species or designated sites out of the assessment has been provided (see **Table 7-10**). Following completion of the ornithology survey programme, a more detailed assessment of potential effects on individual ornithological receptors during construction, operation and/or decommissioning will be provided within the ES.

7.7.1.4 Although a range of breeding birds of conservation concern[19] were recorded during the 2026 breeding bird and breeding raptor surveys, it is considered that the scope of the assessment will focus on potentially significant effects on species that are listed as qualifying features of nearby designated sites and those that are dependent on functionally linked habitats that are present within the Scoping Boundary.

7.7.2 Construction

7.7.2.1 It is anticipated that the potential effects of construction on ornithological receptors will be temporary and will be limited to:

- Temporary habitat loss; and
- Temporary disturbance and/or displacement.

7.7.2.2 During construction, it is expected that additional areas of land beyond the permanent footprint of the Proposed Development would be used for temporary infrastructure including construction compounds, access tracks and laydown areas. The use of temporary infrastructure may lead to temporary loss of suitable breeding, roosting or foraging habitat for ornithological receptors within and surrounding the Site. It is expected that any habitat lost temporarily will be restored following completion of construction.

7.7.2.3 Human activity will increase at the Proposed Development during construction, with increased presence and number of personnel, operation of construction and demolition machinery and frequency of construction operations causing increased noise. Increased human activity may lead to temporary disturbance of ornithological receptors that breed, roost or forage within the Site and surrounding area, which may lead to temporary displacement if unmitigated. It is expected that the volume and frequency of human activity will decrease following construction and that ornithological receptors that are temporarily displaced will return following completion of construction.

7.7.3 Operation

7.7.3.1 It is anticipated that the potential effects of operation of the Proposed Development will be permanent and will include:

- Permanent habitat loss;
- Permanent habitat change (pollution);
- Permanent displacement;
- Permanent collision risk; and
- Permanent barrier effects.

7.7.3.2 During the operational phase, suitable breeding, roosting or foraging habitat that is within the direct footprint of all infrastructure associated with the Proposed Development will be lost, leading to permanent displacement. Given the nature of the Proposed Development and the associated increase in air and road traffic, there is potential for habitat surrounding the infrastructure footprint to be indirectly affected through pollution. Pollution of available suitable habitat surrounding the Proposed Development may affect the quality of habitat for breeding, roosting or foraging and lead to indirect displacement of ornithological receptors.

7.7.3.3 Although human activity is expected to reduce following completion of construction, it is expected that the operation of the Proposed Development will be accompanied by increased regular and frequent human activity compared with baseline conditions. It is anticipated that ornithological receptors that are sensitive to disturbance may be permanently displaced from available habitat surrounding the Proposed Development.

7.7.3.4 It is anticipated that the movement of aircraft during the operational phase will lead to an increased risk of collision for some ornithological receptors. Collision risk is expected to be limited to the take-off and landing of aircraft, during which aircraft will rapidly ascend or descend along a projected flight path. The flight path of aircraft will extend beyond the footprint of the Proposed Development infrastructure; however, it is expected that collision risk would be present during a defined window when aircraft are at heights comparable to the average flight heights of ornithological receptors. There is no defined methodology for quantitatively assessing collision risk with aircraft. As such the collision risk assessment will be qualitative and will focus on overall flight activity and movement of ornithological receptors considered to be sensitive to collision with aircraft.

7.7.3.5 Ornithological receptors which are affected by displacement, whether by habitat loss/change, disturbance or collision avoidance behaviour, may be subject to barrier effects depending on the ecology of the species and the location of suitable breeding, roosting or foraging habitat surrounding the Proposed Development. Barrier effects may occur where the Proposed Development is located on a frequently used commuting route between breeding or roosting habitat and foraging habitat, or between patches of previously connected suitable habitat.

7.7.4 Decommissioning

7.7.4.1 It is anticipated that the operational phase of the Proposed Development will be permanent (>25 years in duration), with effects of decommissioning predicted to be similar to construction. It is considered likely that there will be no additional effects of decommissioning beyond the effects that have been considered for construction, although they cannot be reliably predicted at this stage. Therefore, potential effects of a decommissioning phase are scoped out of the assessment.

Table 7-9: Likely significant effects on ornithological receptors

Activity	Effect	Receptor
Construction		
Ground clearance and demolition for construction, including temporary infrastructure such as construction compounds, access tracks, laydown areas and welfare facilities.	Temporary habitat loss	• South West London Waterbodies SPA; • South West London Waterbodies Ramsar site; • Staines Moor SSSI; • Wraysbury Reservoir SSSI; • Wraysbury and Hythe End Gravel Pits SSSI; • Wraysbury No 1. Gravel Pit SSSI; • Thorpe Park No. 1 Gravel Pit SSSI;

Activity	Effect	Receptor
		• Kempton Park Reservoirs SSSI; • Fray's Farm Meadows SSSI; • Mid Colne Valley SSSI; • Breeding species; • Non-breeding species.
Increased volume and frequency of human activity during construction and demolition such as increased vehicle traffic, operation of construction and demolition machinery and use of artificial lighting causing increased auditory (noise and vibration) and visual (lighting and human presence) stimuli.	Temporary disturbance and/or displacement	• South West London Waterbodies SPA; • South West London Waterbodies Ramsar site; • Staines Moor SSSI; • Wraysbury Reservoir SSSI; • Wraysbury and Hythe End Gravel Pits SSSI; • Wraysbury No 1. Gravel Pit SSSI; • Thorpe Park No. 1 Gravel Pit SSSI; • Kempton Park Reservoirs SSSI; • Fray's Farm Meadows SSSI; • Mid Colne Valley SSSI; • Breeding species; • Non-breeding species.
Operation		
Presence of Proposed Development infrastructure including terminal, satellite and airside support buildings, runways, taxiways and roads.	Permanent habitat loss	• South West London Waterbodies SPA; • South West London Waterbodies Ramsar site; • Staines Moor SSSI; • Wraysbury Reservoir SSSI; • Wraysbury and Hythe End Gravel Pits SSSI; • Wraysbury No 1. Gravel Pit SSSI; • Thorpe Park No. 1 Gravel Pit SSSI; • Kempton Park Reservoirs SSSI; • Fray's Farm Meadows SSSI; • Mid Colne Valley SSSI; • Breeding species; • Non-breeding species.

Activity	Effect	Receptor
Pollution of habitat through the associated increased volume and frequency of vehicular movement and traffic associated with the operation and maintenance of the Proposed Development.	Permanent habitat change (pollution)	• South West London Waterbodies SPA; • South West London Waterbodies Ramsar site; • Staines Moor SSSI; • Wraysbury Reservoir SSSI; • Wraysbury and Hythe End Gravel Pits SSSI; • Wraysbury No 1. Gravel Pit SSSI; • Thorpe Park No. 1 Gravel Pit SSSI; • Kempton Park Reservoirs SSSI; • Fray's Farm Meadows SSSI; • Mid Colne Valley SSSI; • Breeding species; • Non-breeding species.
Loss or change of habitat associated with operation and maintenance of the Proposed Development infrastructure in addition to disturbance from increased volume and frequency of human activities.	Permanent displacement	• South West London Waterbodies SPA; • South West London Waterbodies Ramsar site; • Staines Moor SSSI; • Wraysbury Reservoir SSSI; • Wraysbury and Hythe End Gravel Pits SSSI; • Wraysbury No 1. Gravel Pit SSSI; • Thorpe Park No. 1 Gravel Pit SSSI; • Kempton Park Reservoirs SSSI; • Fray's Farm Meadows SSSI; • Mid Colne Valley SSSI; • Breeding species; • Non-breeding species.
Aircraft movement during take-off and landing.	Permanent collision risk	• South West London Waterbodies SPA; • South West London Waterbodies Ramsar site; • Staines Moor SSSI; • Wraysbury Reservoir SSSI; • Wraysbury and Hythe End Gravel Pits SSSI; • Wraysbury No 1. Gravel Pit SSSI;

Activity	Effect	Receptor
		• Thorpe Park No. 1 Gravel Pit SSSI; • Kempton Park Reservoirs SSSI; • Fray's Farm Meadows SSSI; • Mid Colne Valley SSSI; • Breeding species; • Non-breeding species.
Presence of the Proposed Development leading to habitat loss and/or change and displacement.	Permanent barrier effects	• South West London Waterbodies SPA; • South West London Waterbodies Ramsar site; • Staines Moor SSSI; • Wraysbury Reservoir SSSI; • Wraysbury and Hythe End Gravel Pits SSSI; • Wraysbury No 1. Gravel Pit SSSI; • Thorpe Park No. 1 Gravel Pit SSSI; • Kempton Park Reservoirs SSSI; • Fray's Farm Meadows SSSI; • Mid Colne Valley SSSI; • Breeding species; • Non-breeding species.

7.8 Effects Not Requiring Assessment

7.8.1.1 Based on results of the desk study completed to date, the location of the Site and the description of the Proposed Development, it is considered that there will be no likely significant effects on the Thames Basin Heaths SPA, Langham Pond SSSI, Windsor Forest and Great Park SSSI, Syon Park SSSI or Black Park SSSI. These ornithological receptors are therefore scoped out of the EIA, justification for which is provided in **Table 7-10**.

Table 7-10: Potential effects to be scoped out of the ornithology assessment

Activity	Effect	Receptor	Justification for scoping out
Construction	Temporary habitat loss	• Thames Basin Heaths SPA; • Langham Pond SSSI;	Based on the ecology and behaviour of the species listed as qualifying features of these designated sites, it is considered that there are no direct or indirect impact pathways for the potential

Activity	Effect	Receptor	Justification for scoping out
		• Windsor Forest and Great Park SSSI; • Syon Park SSSI; • Black Park SSSI.	effects of temporary habitat loss from the Proposed Development on these ornithological receptors. The species populations listed as qualifying features are considered unlikely to be functionally linked with habitats present within the Scoping Boundary, either through an absence of suitable habitat within the Scoping Boundary (e.g. for nightjar, listed as a qualifying feature of the Thames Basin Heaths SPA), and/or through a distance between the Proposed Development and the designated site that is larger than the expected commutable distance or core range for each species despite presence of suitable habitat within the Scoping Boundary. As such, it is considered that there will be no route to impact on these ornithological receptors and significant effects of temporary habitat loss are therefore not considered likely.
Construction	Temporary disturbance and/or displacement	• Thames Basin Heaths SPA; • Langham Pond SSSI; • Windsor Forest and Great Park SSSI; • Syon Park SSSI; • Black Park SSSI.	As the distance between the Scoping Boundary and these designated sites is greater than the estimated or anticipated disturbance distance for species listed as qualifying features (it is estimated that none of the qualifying features will be at risk of disturbance beyond 500 m), it is considered that is no direct or indirect impact pathways for the potential effects of temporary disturbance and/or displacement from the Proposed Development on these ornithological receptors. Furthermore, the qualifying features of these designated sites are also considered unlikely to be

Activity	Effect	Receptor	Justification for scoping out
			functionally linked with habitats within the Scoping Boundary and therefore the species populations associated with these designated sites are not expected to be present within 500 m of the Scoping Boundary. As such, it is considered that there will be no route to impact on these ornithological receptors and significant effects of temporary disturbance and/or displacement are therefore not considered likely.
Operation	Permanent habitat loss	• Thames Basin Heaths SPA; • Langham Pond SSSI; • Windsor Forest and Great Park SSSI; • Syon Park SSSI; • Black Park SSSI.	Based on the ecology and behaviour of the species listed as qualifying features of these designated sites, it is considered that there are no direct or indirect impact pathways for the potential effects of permanent habitat loss at the Proposed Development on these ornithological receptors. The species populations listed as qualifying features are considered unlikely to be functionally linked with habitats present within the Scoping Boundary, either through an absence of suitable habitat within the Scoping Boundary (e.g. for nightjar, listed as a qualifying feature of the Thames Basin Heaths SPA), and/or through a distance between the Proposed Development and the designated site that is larger than the expected commutable distance or core range for each species despite presence of suitable habitat within the Scoping Boundary. As such, it is considered that there will be no route to impact on these ornithological receptors and significant effects of permanent

Activity	Effect	Receptor	Justification for scoping out
			habitat loss are therefore not considered likely.
Operation	Permanent habitat change (pollution)	• Thames Basin Heaths SPA; • Langham Pond SSSI; • Windsor Forest and Great Park SSSI; • Syon Park SSSI; • Black Park SSSI.	It is anticipated that potential effects of permanent habitat change (pollution) would result in impacts within proximity to the Proposed Development. Given the distance between the Scoping Boundary and these designated sites, it is considered that there are no direct or indirect impact pathways for the potential effects of permanent habitat change (pollution) at the Proposed Development on these ornithological receptors. Although there may be hydrological connectivity between the Scoping Boundary and these designated sites via small watercourses, these watercourses are within the catchment of the River Thames, with watercourses draining away from these designated sites. As such, it is considered that there will be no route to impact on these ornithological receptors and significant effects of permanent habitat change (pollution) are therefore not considered likely.
Operation	Permanent displacement	• Thames Basin Heaths SPA; • Langham Pond SSSI; • Windsor Forest and Great Park SSSI; • Syon Park SSSI; • Black Park SSSI.	As the distance between the Scoping Boundary and these designated sites is greater than the estimated or anticipated disturbance distance for species listed as qualifying features (it is estimated that none of the qualifying features will be at risk of disturbance beyond 500 m), it is considered that is no direct or indirect impact pathways for the potential effects of permanent displacement from the

Activity	Effect	Receptor	Justification for scoping out
			Proposed Development on these ornithological receptors. Furthermore, the qualifying features of these designated sites are also considered unlikely to be functionally linked with habitats within the Scoping Boundary and therefore the species populations associated with these designated sites are not expected to be present within 500 m of the Scoping Boundary. As such, it is considered that there will be no route to impact on these ornithological receptors and significant effects of permanent displacement are therefore not considered likely.
Operation	Permanent collision risk	• Thames Basin Heaths SPA; • Langham Pond SSSI; • Windsor Forest and Great Park SSSI; • Syon Park SSSI; • Black Park SSSI.	Based on the distance between the Scoping Boundary and these designated sites, it is considered that there are no direct or indirect impact pathways for the potential effects of permanent collision risk at the Proposed Development on these ornithological receptors. The point at which ornithological receptors are considered to be at the greatest risk of collision with aircraft is during take-off and landing. As take-off and landing will occur within proximity to the runway infrastructure of the Proposed Development only, it is considered that these designated sites are located a sufficient distance from the Scoping Boundary that the species populations associated with the designated sites will not be present within the take-off or landing zone and will therefore not be at risk

Activity	Effect	Receptor	Justification for scoping out
			of collision with aircraft during take-off or landing. As such, it is considered that there will be no route to impact on these ornithological receptors and significant effects of permanent collision risk are therefore not considered likely.
Operation	Permanent barrier effects	• Thames Basin Heaths SPA; • Langham Pond SSSI; • Windsor Forest and Great Park SSSI; • Syon Park SSSI; • Black Park SSSI.	Given the distance between the Scoping Boundary and these designated sites, together with the lack of (i.e. no presence of suitable habitat) or unlikely use of (i.e. further than species' core ranges or commuting distances) potentially functionally linked land within the Scoping Boundary, it is considered that there will be no route to impact on these ornithological receptors and significant effects of permanent barrier effects are therefore not considered likely.
Decommissioning	All effects	All ornithological receptors	As the operational phase of the Proposed Development is intended to be permanent (>25 years in duration), the effects of decommissioning cannot be reliably predicted at this stage. However, any effects of decommissioning are expected to be similar in nature to the effects of construction, except that following decommissioning, it is expected that habitats will be restored and species affected by habitat loss and displacement during the operational period would return. It is therefore considered that there would be no additional effects of decommissioning beyond the effects that have been considered for construction. As such an assessment of the effects of

Activity	Effect	Receptor	Justification for scoping out
			decommissioning has been scoped out.

7.9 Proposed Approach to Assessment

7.9.1.1 The approach to the assessment of ornithological receptors will be drawn from the baseline conditions at the Proposed Development as outlined in **Section 7.6** and will follow CIEEM guidelines[1]. Professional judgment will be applied using criteria as set out in the guidelines to determine the potential effects of the Proposed Development on IORs and the significance of those effects.

7.9.1.2 The process of identifying IORs includes evaluation of the level of value of ornithological receptors within a geographical context in relation to the Proposed Development, as defined in **Table 7-11**. In line with the principles of proportionate EIA, embedded mitigation (primary mitigation) is considered at the outset of the assessment of ornithological receptors, such that IOR status is assigned where the potential for significant effects exists following the application of embedded mitigation measures.

Table 7-11: Level of value of IORs defined by geographical context

Level of value	Example of IOR
International	Species regularly occurring at the Proposed Development that are also listed as a qualifying feature of an internationally designated site (SPA or Ramsar site) within the ZoI of the Proposed Development, are functionally linked to the designated site and are present in numbers that contribute to the qualifying interest and conservation objectives or integrity of the designated site. Species of sufficient conservation importance which are present in sufficient numbers to meet criteria for SPA selection[21].

[21] Stroud, D.A., Chambers, D., Cook, S., Buxton, N., Fraser, B., Clement, P., Lewis, P., McLean, I., Baker, H. & Whitehead, S. (eds). 2001. The UK SPA network: its scope and content. JNCC, Peterborough.

Level of value	Example of IOR
National	Species regularly occurring at the Proposed Development that are also listed as a qualifying feature of a nationally designated site (SSSI) within the ZoI of the Proposed Development, are functionally linked to the designated site and are present in numbers that contribute to the qualifying interest and conservation objectives or integrity of the designated site. Species of sufficient conservation importance which are present in sufficient numbers to meet criteria for SSSI selection[22].
Regional	Species occurring at the Proposed Development that are listed as qualifying features of internationally and nationally designated sites (SPA, Ramsar site and SSSI) within the ZoI of the Proposed Development, are functionally linked to the designated site but are not present in numbers that contribute to the qualifying interest and conservation objectives or integrity of the designated site. Species which are present in numbers that fall short of the criteria for SPA or SSSI selection but are likely sufficient to meet criteria for selection of a local site.
Local	Species described above but which are present very infrequently or in very low numbers. Other species of conservation concern that are listed on the UK BoCC Red or Amber Lists[18].
Negligible	All other species that are widespread and common and which are not present in locally important (or greater) numbers, and which are considered to be of low conservation concern (e.g. species listed on the UK BoCC Green List[18]).

7.9.1.3 In line with CIEEM guidelines, the level of impact of potential effects on IORs will be assessed in relation to criteria that defines the sensitivity of IORs which is determined based on individual species ecology and behaviour and the application of professional judgement. Criteria used to determine sensitivity of IORs are outlined in **Table 7-12**.

[22] Drewitt, A.L., Whitehead, S. and Cohen, S. 2023. Guidelines for the Selection of Biological SSSIs. Part 2: Detailed Guidelines for Habitats and Species Groups. Chapter 17: Birds (version 1.2). Joint Nature Conservation Committee, Peterborough.

7.9.1.4 Together with sensitivity of IORs, the level of impact will be assessed in relation to the extent, magnitude, duration, timing, frequency, and reversibility of impacts. The magnitude of impact is determined by the size, amount, intensity and volume of the effect. Criteria used to determine magnitude are outlined in **Table 7-13**.

7.9.1.5 Consideration of both the sensitivity of IORs and the magnitude of impacts will take into account the duration of impacts, categorised as either temporary (short-term (0-5 years), medium-term (5-15 years) or long-term (15-25 years) or permanent (>25 years).

Table 7-12: Sensitivity Criteria

Sensitivity	Criteria
High	Ornithological receptors with limited ability to respond to change such as species or populations that require specific conditions (e.g. habitat composition or prey type and availability) are not regularly exposed to or habituated to human activities or are highly susceptible to disturbance (sudden or continuous noise and/or visual stimuli).
Moderate	Ornithological receptors with some ability to respond to change, may be limited in adaptability to varied conditions, may be regularly subject to or are habituated to occasional human activities or may be susceptible to disturbance (sudden or continuous noise and/or visual stimuli).
Low	Ornithological receptors with tolerance to change, can adapt successfully to varied conditions, are subject to or habituated to frequent human activity or exhibit mild reactions to disturbance (sudden or continuous noise and/or visual stimuli).

Table 7-13: Magnitude Criteria

Magnitude	Criteria
Very highly negative	Impacts that result in total or almost complete loss of an ornithological feature, permanently and adversely affecting its integrity. Impacts that result in permanent and likely irreversible changes to the conservation status of an ornithological feature.
Highly negative	Impacts that result in large-scale permanent changes to an ornithological feature that are likely to adversely affect its integrity. Impacts that are likely to result in permanent but likely reversible changes to the conservation status of an ornithological feature.

Magnitude	Criteria
Moderately negative	Impacts that result in noticeable moderate-scale long-term changes or larger-scale temporary changes to an ornithological feature that are unlikely to affect its integrity. Impacts that may result in temporary but reversible changes to the conservation status of an ornithological feature.
Low negative	Impacts that result in perceptible small-scale temporary changes to an ornithological feature that do not affect its integrity or conservation status.
Negligible	Impacts result in no discernible change to an ornithological feature, its integrity or conservation status.
Positive	Impacts result in changes to an ornithological feature that benefits its integrity or conservation status.

7.9.1.6 The significance of effects is determined following the process of identifying IORs and their sensitivity, and characterisation of impacts (positive or negative, extent, magnitude, duration, timing, frequency, and reversibility). Applying the criteria to each IOR, the significance of effects is evaluated based on the importance of the IOR in the context of the Proposed Development, the magnitude of the impact and the use of professional judgement in determining whether the integrity of IORs will be affected. Significance of effects will be considered for potential impacts identified at all stages of the Proposed Development, including construction, operation and decommissioning.

7.9.1.7 CIEEM guidelines refer to two categories to classify effects: 'significant' and 'not significant'. For the purposes of the ornithology assessment, significant and not significant effects have been further categorised into substantial, major, moderate, minor, negligible or no effect, with criteria detailed in **Table 7-14**. Effects which are determined to be moderate or greater will be considered significant.

Table 7-14: Significance Criteria

Level of effect		Criteria
Significant	Substantial	Potential effects which will result in a very highly negative magnitude of impact on highly sensitive ornithological receptors of international, national or regional importance.
	Major	Potential effects which will result in a highly negative magnitude of impact on highly or moderately sensitive ornithological receptors of international, national or regional importance.

Level of effect		Criteria
	Moderate	Potential effects which will result in a moderately negative magnitude of impact on moderately sensitive ornithological receptors of national, regional or local importance.
Not significant	Minor	Potential effects which will result in a low negative magnitude of impact on moderately or low sensitive ornithological receptors of regional, local or negligible importance.
	Negligible or no effect	Potential effects which will result in a negligible or no impact on low sensitive ornithological receptors of local or negligible importance.

7.9.2 Additional Baseline Information Required

7.9.2.1 Baseline information that is still to be collected includes up-to-date ornithological records which will be requested from TVERC, Surrey Biodiversity Records Centre, Greenspace Information for Greater London, Buckinghamshire & Milton Keynes Environmental Records Centre and the BTO, and results of the following baseline surveys which are yet to be completed:

- Breeding bird surveys (April to June 2027);
- Breeding raptor surveys (April to June 2027);
- Barn owl surveys (June and July 2027);
- Wintering bird surveys (November 2026 to February 2027);
- Winter waterbody surveys (November 2026 to February 2027);
- Nocturnal winter waterbody surveys (November 2026 to February 2027); and
- FAS (November 2026 to February 2027).

7.9.2.2 Results of the updated data search and upcoming baseline surveys will be included within the ES.

7.9.3 Cumulative Effects

7.9.3.1 Cumulative effects can either be additive/incremental (i.e. the spatial and temporal proximity of multiple activities or developments may result in a significant effect) and/ or associated/connected (i.e. different elements of a single development that may be authorised under separate consent processes). For ornithology, it is anticipated that cumulative effects may arise from additive/incremental effects of multiple developments within proximity to the Proposed Development and cumulative effects associated/connected with other elements of the operational development. Where relevant information can be sourced for developments that are at the application stage, consented or under construction, these will be included.

7.9.3.2 Following the results of outstanding ornithology surveys and the EIA, a Cumulative Impact Assessment (CIA) will be completed on all ornithological receptors that are

identified as IORs within the EIA Report. The CIA will identify potential cumulative effects of the Proposed Development in combination with any other projects, see **Chapter 24: Approach to Cumulative and In-combination Effects**, which could result in a significant cumulative impact on IORs within a ZoI surrounding the Proposed Development. Whilst the distance of the ZoI is dependent on the IOR, it is not anticipated to be more than 10 km. However, the ZoI is also dependent on the nature of identified cumulative developments and the potential for cumulative likely significant effects.

7.9.3.3 Particular consideration will also be given to cumulative effects on nearby statutory designated sites, including the South West London Waterbodies SPA and Ramsar site, associated SSSIs and any identified functionally linked habitat surrounding the designated sites.

7.9.4 In-Combination Effects

7.9.4.1 This Chapter should be read in conjunction with **Chapter 6: Biodiversity**, **Chapter 20: Noise and Vibration and Chapter 22: Water Environment**.

7.9.4.2 Relevant pathways include habitat loss, habitat change (pollution), disturbance, displacement and changes to water-dependent habitats which may indirectly affect ornithological receptors.

7.9.4.3 Effects of habitat loss and/or habitat change (pollution) are also considered within the **Chapter 6** and **Chapter 22**.

7.9.5 Limitations and Assumptions

7.9.5.1 The initial assessment of Likely Significant Effects (LSEs) within this Chapter is based on a combination of desk study results and the results of baseline ornithology surveys completed to date. This includes a review of historic contextual data collected during surveys for previous Heathrow expansion proposals and the results of breeding bird and breeding raptor surveys completed in 2026 (see **Section 7.6.1**). A large proportion of the proposed scope of surveys is still to be completed, including the non-breeding season surveys between November 2026 and February 2027 and a second year of breeding season surveys between March and August 2027 (see **Section 7.9.2**).

7.9.5.2 Surveys that have been completed to date (the 2026 breeding bird and breeding raptor surveys), were carried out within a survey area that was based on a previous, smaller scoping boundary. Since these surveys were completed, amendments have been made to the DCO Order Limits, with the resulting Scoping Boundary covering a much larger area than was surveyed. It is proposed that the remaining surveys cover the Scoping Boundary and relevant survey-specific buffers as outlined in **Section 7.4**. Consultation with Natural England on the proposed scope of surveys is ongoing. However, it is anticipated that the area in which most of the Proposed Development infrastructure is proposed to be located will be much smaller than the extent of the Scoping Boundary. It is currently

considered that the proposed survey programme will provide sufficient information to inform the assessment of potential effects on ornithological receptors. This will be reviewed following completion of the remaining surveys and consultation with Natural England.

7.9.5.3 Due to the large area covered by the Scoping Boundary and surrounding survey-specific buffers, it is expected that there may be areas that surveyors will not be permitted to access for surveys, or areas that may be inaccessible due to safety restrictions. However, much of the land within the Scoping Boundary is urban and contains an accessible network of public rights of way. It is therefore anticipated that where access is not permitted or is restricted, that surveyors will survey land as far as possible using the public rights of way and from areas where access is permitted.

7.10 Proposed Approach to Mitigation

7.10.1.1 In line with CIEEM good practice guidance, the proposed approach to mitigation will follow the mitigation hierarchy as outlined below. As the Proposed Development advances, the below measures will be reviewed and adjusted as necessary to ensure they remain appropriate, effective and compliant with regulatory standards and stakeholder input.

7.10.1.2 The ornithology assessment will be carried out under the assumption that primary and tertiary (embedded) mitigation measures will be in place, with secondary mitigation measures applied where there are likely significant residual effects following the implementation of primary and tertiary mitigation.

Avoidance

7.10.1.3 The first step in the mitigation hierarchy is to avoid potential effects altogether. As such, avoidance of potential effects will be considered during the design process of the Proposed Development via the collection of ornithology survey data. During the design process, ornithology survey data will be used to inform how the Proposed Development infrastructure can be designed to avoid potential effects on ornithology.

Primary and Tertiary Mitigation

7.10.1.4 Where avoidance of potential effects is not possible, the Proposed Development will consider primary and tertiary (embedded) mitigation measures that are assumed to be in place prior to undertaking an assessment of potential effects on ornithological receptors. A set of standard measures will be implemented following good practice guidance in order to comply with legislation should the application be granted consent. Standard good practice measures to avoid potential effects on ornithological receptors include primary mitigation measures relevant to construction are outlined in **Table 7-15**.

Table 7-15: Primary and tertiary mitigation measures relevant to the ornithology assessment

Mitigation Measure	Rationale
Production and implementation of a Construction Environmental Management Plan (CEMP) in agreement with Natural England and the LPA	The CEMP would include: • Practical measures (both physical measures and sensitive working practices) to avoid or reduce impacts during construction, including method statements such as a Pollution Prevention Plan outlining measures to control and prevent pollution and a Drainage Management Plan outlining measures for the management of surface water and ground water; and • Species Protection Plans (SPPs), including a Breeding Bird Protection Plan (BBPP) outlining specific measures to monitor and protect ornithological receptors during construction.
Appointment of a suitably qualified and experienced Environmental Clerk of Works (ECoW) to be present during construction.	The ECoW would oversee enabling works and ensure that works are carried out following good practice and comply with legislation through the implementation of: • Toolbox talks outlining the ornithological sensitivities at the Proposed Development, particularly the location and status of any sensitive ornithological receptors within the vicinity of planned works; and • Pre-construction surveys prior to commencement of planned works including ground clearance and excavation works to check for evidence of nesting or roosting birds to allow protection measures to be applied if required to prevent illegal damage or destruction to nests and/or disturbance to breeding or roosting birds.
Timing of works	Where possible, avoidance of crucial periods for ornithological sensitivities present at the Proposed Development, such as the main bird breeding season (March to August) to prevent illegal damage, destruction and/or disturbance to breeding birds.

Secondary Mitigation

7.10.1.5 Where additional (secondary) mitigation measures are required, these will be outlined within the EIA Report if a potential significant impact on an ornithological feature is identified following assessment of potential effects. Where potential effects on ornithological receptors exist, detailed mitigation measures will be incorporated into an Operational Environmental Management Plan (OEMP) which will be implemented throughout the operational phase of the Proposed Development to ensure ongoing compliance with relevant environmental legislation.

Compensation and Enhancement

7.10.1.6 Additional mitigation measures may include habitat creation, habitat enhancement and/or long-term habitat management where required to avoid, reduce or compensate for effects on IORs. Where significant effects on designated sites or their qualifying ornithological features are identified, mitigation and/or compensation measures will be developed in consultation with Natural England, the LPA and other relevant stakeholders.

7.11 Summary

Table 7-16: Elements scoped in/out of the ornithology assessment

Discipline	Scoped In Elements	Scoped Out Elements
Ornithology	Construction – Temporary habitat loss Construction – Temporary disturbance and/or displacement Operation – Permanent habitat loss Operation – Permanent habitat change (pollution) Operation – Permanent displacement Operation – Permanent collision risk Operation – Permanent barrier effects	Decommissioning – Temporary habitat loss Decommissioning – Temporary disturbance and/or displacement

Environmental Impact Assessment Scoping Report

Chapter 8

Greenhouse Gases

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8 Greenhouse Gases

8.1 Introduction

8.1.1.1 This Chapter of the EIA Scoping Report has been prepared by Stantec UK Ltd and sets out the likely significant effects of the Proposed Development on climate change resulting from the release of carbon and other Greenhouse Gas (GHG) emissions. The assessment will be presented within an Environmental Statement (ES).

8.1.1.2 Regulation 5(2)(c) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017[1] (the EIA Regulations) requires significant effects on climate to be considered, as appropriate, within the EIA process. In addition, Schedule 4[2] to the EIA Regulations requires likely significant effects resulting from "the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions)" to be addressed within an ES.

8.1.1.3 This chapter should be read in conjunction with **Chapter 6: Biodiversity**; **Chapter 9: Climate Change**, and Chapter **21: Traffic and Transport**.

8.2 Policy, Legislation and Guidance

8.2.1.1 This section identifies the relevant topic specific policies that have informed the scope and, where relevant, the study area of the assessment presented in **Section 8.4**. Further information on the policies relevant to the EIA and their status is set out in **Section 1.9** and should be read in conjunction with this chapter.

Table 8-1: Policy relevant to the Greenhouse Gas assessment

Relevant Policy	Relevance to assessment
Policy - International	
Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment (AR6) Synthesis Report[3]	The IPCC's Sixth Assessment (AR6) Synthesis Report published in 2023, highlights that limiting the risks of human-caused global warming requires rapid and sustained emission reductions across all

[1] UK Government. Regulation 5(2)(c) of the Infrastructure Planning (Environmental Impact Assessment) Regulations. 2017. Available at: https://www.legislation.gov.uk/uksi/2017/572/regulation/5 (Accessed: 29/09/2026)
[2] UK Government. Schedule 4 of the Infra EIA Regs. 2017. Available at: https://www.legislation.gov.uk/uksi/2017/572/schedule/4 (Accessed: 29/09/2026)
[3] Intergovernmental Panel on Climate Change, IPCC. AR6 Synthesis Report: Climate Change. 2023. Available at: https://www.ipcc.ch/report/sixth-assessment-report-cycle/ (Accessed: 29/09/2026)

Relevant Policy	Relevance to assessment
	sectors, alongside achieving net zero GHG emissions globally. The IPCC assessment reports provide robust evidence that climate change poses a global risk and underpin the international response in terms of setting carbon budgets. Those set by the UK will be used to contextualise the GHG emissions associated with the Proposed Development.
United Nations Framework Convention on Climate Change (UNFCCC)[4]	The UNFCCC was created in 1992 with the aim of tackling climate change through international negotiation and cooperation. Countries that sign the UNFCCC are referred to as 'Parties' and meet annually at the Conference of Parties (COP). The Kyoto Protocol[5] was adopted in 1997 (the 3rd COP), setting legally binding limits on GHG emissions for all Parties. The protocol was an important first step toward a global emission reduction system that sought to stabilize GHG emissions and established a building block for future international climate change negotiations. At COP21[6], the Paris Agreement[7] declared a long-term temperature target to strengthen the global response to the threat of climate change. The aim of the agreement is to prevent global temperature rise within this century to "*well below 2 degrees Celsius above pre-industrial levels and to limit the temperature increase even further to 1.5 degrees Celsius*". This is often referred to as the 1.5 degree Target. The UK Government signed the Paris Agreement[8] in 2015, and in 2016, ratified it. In doing so, the UK Government is required to

[4] United Nations. United Nations Framework Convention on Climate Change. 1992. Available at: https://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf (Accessed: 29/09/2026)
[5] United Nations. Kyoto Protocol to the United Nations Framework Convention on Climate Change. 1997. Available at: https://treaties.un.org/doc/Treaties/1998/09/19980921%2004-41%20PM/Ch_XXVII_07_ap.pdf (Accessed: 29/09/2026)
[6] United Nations. COP 21. 2015. https://unfccc.int/event/cop-21 (Accessed: 29/09/2026)
[7] United Nations Treaty Collection. The Paris Agreement. 2015. Available at: https://treaties.un.org/doc/Treaties/1998/09/19980921%2004-41%20PM/Ch_XXVII_07_ap.pdf (Accessed: 29/09/2026)
[8] Department for Business, Energy & Industrial Strategy, DBEIS. UK ratifies the Paris Agreement. 2016. Available at: https://www.gov.uk/government/news/uk-ratifies-the-paris-agreement (Accessed: 29/09/2026).

Relevant Policy	Relevance to assessment
	translate its' commitment into legislative requirements (see below). The Paris Agreement requires each Party, including the UK, to maintain Nationally Determined Contributions (NDCs) and pursue mitigation to meet these objectives. The UK's latest NDC was published in 2025[9] and requires the UK to reduce all GHGs by at least 81% by 2035.
ICAO CORSIA (Carbon Offsetting Reduction Scheme for International Aviation)[10]	The International Civil Aviation Organisation (ICAO) is the international body responsible for environmental standards relating to aviation activity globally, including policy relating to aviation's global carbon emissions. As such, ICAO is a delegated body responsible for addressing requirements of the UNFCCC and international climate agreements such as the Paris Agreement (see above). In October 2016, ICAO announced that it had reached agreement across its Member States on the introduction of a global market-based emissions offsetting scheme. The agreement, known as CORSIA (Carbon Offsetting Reduction Scheme for International Aviation) is supported by Heathrow and the UK government, which is a member of ICAO. CORSIA aims to offset any growth in carbon emissions from international aviation after 2020 that fall within the scope of a scheme. The current phase of CORSIA, referred to as the 'First Phase' began in 2024 and is expected to conclude in December 2026. The second phase, which will require offsets of emissions that exceed an updated baseline based on 85% of 2024 emissions, is anticipated to commence in 2027 and continue to through to 2035. This phase is voluntary for participating countries. Carbon emissions are offset by airlines purchasing emissions reduction credits, which they will then be required to submit to the

[9] Department for Energy Security and Net Zero, DESNZ. UK's 2035 Nationally Determined Contribution (NDC) emissions reduction target under the Paris Agreement. 2025. Available at: https://www.gov.uk/government/publications/uks-2035-nationally-determined-contribution-ndc-emissions-reduction-target-under-the-paris-agreement (Accessed: 29/09/2026)

[10] International Civil Aviation Organization, ICAO. Resolution A42-22. 2016. Available at: https://www.icao.int/sites/default/files/environmental-protection/Assembly42/Resolution-A42-22_CORSIA.pdf (Accessed: 29/09/2026)

Relevant Policy	Relevance to assessment
	government of the country in which the flight originated.
Policy – National	
Airports National Policy Statement (ANPS) New Runway and Infrastructure at Airports in the South East of England (2018)[11]	The ANPS describes the relevant Government policy for the expansion of aviation capacity in the South-East of England. The ANPS requires the Applicant's assessment to include (as set out in ANPS Paragraphs 5.73 – 5.76): • Increases in emissions from air transport movements (both international and domestic) as a result of increased demand • Emissions from airport buildings and ground operations • Emissions from surface transport accessing the expanded airport • Emissions caused by construction (including embodied carbon) • Assessment of any likely significant climate factors • Assessment against the Government's carbon obligations, including but not limited to carbon budgets • Reporting of GHG emissions split into traded sector and non-traded section emissions • Separate reporting of international and domestic aviation GHG emissions • Quantification of the carbon impacts of both a 'do minimum' and also a 'do something' scenario for the opening, peak operation, and worst case scenarios. The above will be considered within the scope of the assessment for which further information is set out in this chapter in Section 8.9.

[11] Department for Transport, DfT. Airports National Policy Statement: *new runway capacity and infrastructure at airports in the South East of England.* 2018. Available at: https://www.gov.uk/government/publications/airports-national-policy-statement (Accessed: 29/09/2026)

Relevant Policy	Relevance to assessment
Draft Heathrow Expansion National Policy Statement (HENPS)[12]	The draft Heathrow Expansion National Policy Statement (HENPS) sets out the proposed planning framework against which any future application for development consent for the Heathrow expansion should be considered. The draft HENPS reflects recent developments in climate legislation and aviation policy since the designation of the ANPS in 2018. This includes the UK's legally binding net zero greenhouse gas emissions target for 2050, updated sixth and seventh carbon budgets, the Jet Zero Strategy[13] (see below) and the wider aviation decarbonisation framework. In relation to GHG emissions, the draft HENPS provides a more detailed framework than the existing ANPS, requiring assessment of emissions from construction, airport operations, surface access, aviation fuel supply and inbound and outbound flights. It also requires qualitative consideration of non-CO_2 aviation impacts. The draft HENPS emphasises the need to demonstrate how GHG emissions have been avoided, reduced and mitigated through design, construction and operation. It requires Heathrow expansion proposals to be supported by a comprehensive package of decarbonisation measures covering aviation activity, airport operations, ground movements and construction emissions. The draft HENPS states that any Heathrow expansion proposal must satisfy the UK's legal obligations on climate change.
Heathrow Expansion Appraisal Report (2026)[14] and Appraisal of	The Heathrow Expansion Appraisal Report (HEAR) and the Appraisal of Sustainability (AoS) for the draft HENPS were published in June 2026 to form

[12] Department for Transport, DfT. Draft Heathrow Expansion National Policy Statement. 2026. Available at: https://www.gov.uk/government/publications/draft-heathrow-expansion-national-policy-statement (Accessed: 29/09/2026)

[13] Department for Transport, DfT. Jet Zero strategy: delivering net zero aviation by 2050. 2022. Available at: https://www.gov.uk/government/publications/jet-zero-strategy-delivering-net-zero-aviation-by-2050 (Accessed: 29/09/2026)

[14] Department for Transport, DfT. Heathrow Expansion Appraisal Report. 2026. Available at https://assets.publishing.service.gov.uk/media/6a469296732d8e7ce5f53bc5/heathrow-expansion-appraisal-report.pdf (Accessed: 29/09/2026)

Relevant Policy	Relevance to assessment
Sustainability for the Draft HENPS (2026)[15]	part of the updated evidence base supporting consultation on the draft HENPS. These reports present DfT's updated appraisal of proposals to expand Heathrow Airport through the delivery of a third runway and associated terminal buildings. The AoS report for the draft HENPS provides a strategic sustainability assessment of the draft HENPS. The appraisal concluded that a third runway can be expected to result in major adverse* effects on climate change during operation, reflecting an increase in aviation-relation greenhouse gas emissions, and an increase in emissions associated with the construction of a new runway and terminal infrastructure. The report notes that additional aircraft movements would be the largest source of carbon emissions at an expanded Heathrow. The HEAR provides an economic appraisal of the Heathrow expansion and highlights that the magnitude of carbon disbenefits are large enough to materially affect the cost-benefit case and are highly sensitive to assumptions regarding aviation demand, future decarbonisation pathways and carbon policy in the UK. ** non-EIA effects. The AoS adopts a different framework for determining significance of effects compared to an EIA.*
Jet Zero Strategy: Delivering Net Zero Aviation by 2050 (2022)[13]	The JZS sets out the Government's plan for delivering net zero aviation by 2050. The strategy sets out six core policy measures the Government intends to achieve to reach net zero aviation by 2050. Three of these core policy measures are: to improve the efficiency of the aviation system (for example by increasing fuel efficiency of aircraft, efficient air space modernisation, maximising passenger loading and decarbonising airport ground operations); to use SAFs; and to develop zero emission flight (e.g. electric or hydrogen fuelled aircraft). The JZS includes modelled pathways of emissions to meet the 2050 net zero

[15] Department for Transport, DfT and AECOM. Appraisal of Sustainability (AoS) for the Draft Heathrow Expansion National Policy Statement. 2026. Available at: https://assets.publishing.service.gov.uk/media/6a3400e6c6e94f095f3efa8b/aos-for-the-draft-henps.pdf (Accessed: 29/09/2026)

Relevant Policy	Relevance to assessment
	target. Within these pathways, the modelling assumes growth at Heathrow to 740,000 air traffic movements, to account for the third runway project (as shown in the Jet Zero Strategy Dataset[16] file which accompanies the strategy). The JZS will be used to inform the assumptions around decarbonisation of flight emissions between the baseline year and 2050. It is proposed that the assessment will align to Jet Zero's "High Ambition" decarbonisation scenario, which is the scenario the Government commits to achieving within the strategy (see JZS Paragraph 1.10). This is also consistent with other airport expansion (DCO and TCPA) applications since Jet Zero was published.
National Networks National Policy Statement (NNNPS) (2024)[17]	The National Networks NNPS (NNNPS) sets the framework for Nationally Significant Infrastructure Projects (NSIPs) on the national road, rail and aviation networks. The NNNPS requires all proposals for national network infrastructure projects to include a Whole Life Carbon Assessment and that a Carbon Management Plan should be produced as part of a DCO Application. The NNNPS also set outs the following statements regarding greenhouse gases: "*the applicant [should take] all reasonable steps to reduce the total carbon emissions at all stages of development*." and "*approval of schemes with residual carbon emissions is allowable and can be consistent with meeting net zero*". The requirements of the NNNPS in relation to GHG emissions will be addressed through the assessment of whole life carbon in the ES and the submission of a Carbon Management Plan as an appendix to the ES.
National Planning Policy Framework (2026)[18]	The latest edition of the National Planning Policy Framework (NPPF), published in August 2026,

[16] Department for Transport, DfT. Jet Zero Strategy Dataset. 2022. Available at: https://www.gov.uk/government/publications/jet-zero-strategy-delivering-net-zero-aviation-by-2050 (Accessed: 29/09/2026)

[17] Department for Transport, DfT. National Networks National Policy Statement. 2024. Available at: https://www.gov.uk/government/publications/national-networks-national-policy-statement (Accessed 29/09/2026)

[18] Ministry of Housing, Communities and Local Government. National Planning Policy Framework. 2026. Available at: https://assets.publishing.service.gov.uk/media/6a8334c03bd75b81e2329ac4/National_Planning_Policy_Framework.pdf (Accessed: 29/09/2026)

Relevant Policy	Relevance to assessment
	establishes climate policy aimed at supporting the transition to net zero by 2050. The framework promotes patterns of development that contribute to substantial reductions in GHG emissions. The NPPF sets objectives for new development to take a proactive approach to mitigating climate change and facilitating the transition to net zero, in accordance with the CCA 2008. Policy CC2: Mitigation of climate change advises that development proposals should prioritise opportunities for sustainable travel modes, use design approaches to conserve energy and other resources, reuse existing structures and materials and contribute to the creation or restoration of habitats which can act as carbon stores. Policy CC3: Adaptation to climate change states that development proposals should take into account the current and potential impacts of climate change over the lifetime of the scheme and minimise the vulnerability to these impacts. Policy TR7: Marine ports, airports and other aviation facilities outlines that development proposals for airport and aviation facilities should facilitate the transition to zero emission vehicles and the use of low and zero carbon fuels. This scoping report sets out the method for how the ES will assess the Proposed Development's approach to mitigating climate change effects in line with the NPPF. Whilst the NPPF does not form part of the statutory decision making framework for Nationally Significant Infrastructure Projects (NSIPs), the above policy can be considered an important and relevant matter.
Policy Paper: Government Update on Airport Expansion (2025)[19]	In January 2025 the Government published a policy paper on airport expansion confirming its support for expansion at Heathrow. The policy paper highlights the Government's commitment to "*ensuring that the economic benefits of airport expansions are delivered in line with our legal,*

[19] Department for Transport, DfT. Government update on airport expansion. 2025. Available at: https://www.gov.uk/government/publications/airport-capacity-and-expansion-a-government-update/government-update-on-airport-expansion (Accessed: 29/09/2026)

Relevant Policy	Relevance to assessment
	climate and environmental obligations" and provides an update on actions being taken to tackle aviation carbon emissions including the introduction of a SAF Mandate and Revenue Certainty Mechanism for UK SAF production (see above) and launch of the Jet Zero Taskforce[20].
Decarbonising Transport. A Better Greener Britain (2021)[21]	Decarbonising Transport. A Better, Greener Britain, published in 2021, sets out additional commitments, actions and timings on decarbonising all forms of transport, including measures to increase cycling and walking, and delivering zero emissions buses and coaches, and zero emission fleets of cars, vans, motorcycles and scooters. This document sets out what consultation the Government will undertake to bring these measures forward, key milestones and available funding. The Government will support the delivering of 4,000 new zero emission buses and the infrastructure to support them, a net zero railway network by 2050, stimulate the demand for zero emission trucks, and deliver over £12 billion for decarbonising local transport systems. For the purposes of the Proposed Development, these strategies are relevant to inform mitigation regarding the project's surface access emissions.
Policy – Regional	
The London Plan (2021)[22]	The key policy relating to carbon and GHGs of the London Plan includes: • Policy SI2 on Minimising GHGs emissions; and • Policy T8 Aviation. Policy SI2 requires major developments to achieve net zero carbon emissions through the 'Be Lean, Be Clean, Be Green, Be Seen' energy hierarchy, the findings of which should be supported by an Energy Strategy. It also requires the minimisation of

[20] Department for Transport, DfT. Jet Zero Taskforce: 2025 annual report. 2026. Available at: https://www.gov.uk/government/groups/jet-zero-taskforce (Accessed: 29/09/2026)
[21] Department for Transport, DfT. Decarbonising transport: a better, greener Britain. 2021. Available at: https://www.gov.uk/government/publications/transport-decarbonisation-plan (Accessed: 29/09/2026)
[22] Mayor of London. The London Plan. 2021. Available at: https://www.london.gov.uk/programmes-strategies/planning/london-plan/london-plan-2021 (Accessed: 29/09/2026)

Relevant Policy	Relevance to assessment
	unregulated emissions and the completion of a Whole Life Carbon Assessment. Policy T8 requires aviation developments to fully consider and mitigate their environmental and climate impacts. Airport expansion proposals must demonstrate that environmental effects have been appropriately assessed and, where necessary, justified by overriding public interest or the absence of a less environmentally damaging alternative.
Draft London Plan (2026)[23]	The draft London Plan sets out good growth objectives including creating a greener, resilient and healthy city. As part of the good growth sub-objectives, the London Plan envisages the implementation of policy which will '*contribute to realising London's Net Zero carbon ambition'*. Examples of key policy relating to reducing GHG emissions include: • GHR1 Energy-efficiency; and • GHR3 Whole life-cycle carbon. The updated policy context introduces Energy Use Intensity (EUI), Space Heating Demand (SHD) and embodied carbon metrics as key measures of building performance. These proposals build upon the Future Building Standard, introducing additional performance measures to support London's net zero ambitions.
Policy – Local	
London Borough of Hillingdon (LBH) Local Plan Part 1: Strategic Policies (2012)[24], Part 2: Development Management Policies (2020)[25] and LBH	Policy BE1: Built Environment and Policy EM1: Climate Change Adaptation and Mitigation of the Local Plan Part 1 and Policy DMEI 2: Reducing Carbon Emissions of the Local Plan Part 2 require climate change mitigation to be embedded throughout the development process. These policies promote sustainable location choices, reduced reliance on private vehicles, energy-

[23] Mayor of London. Draft London Plan. 2026. The Spatial Development Strategy for Greater London. Available here: https://www.london.gov.uk/sites/default/files/2026-07/Draft%20London%20Plan%202026%20web%20version.pdf (Accessed: 29/09/2026)

[24] London Borough of Hillingdon. Local Plan Part 1. 2012. Available at: https://pre.hillingdon.gov.uk/planning-policy/local-plan-review (Accessed: 29/09/2026)

[25] London Borough of Hillingdon. Local Plan Part 2. 2020. Available at: https://pre.hillingdon.gov.uk/planning-policy/local-plan-review (Accessed: 29/09/2026)

Relevant Policy	Relevance to assessment
Strategic Climate Action Plan 2025-2028 (2025)[26]	efficient design, renewable and decentralised energy generation, sustainable transport, green infrastructure, and passive design measures to minimise carbon emissions, support compliance with London Plan carbon reduction targets, and facilitate the transition to a low-carbon borough. LBH declared a climate emergency in 2020[27], subsequently committing to achieving carbon neutrality from its own operations by 2030. Following extensive consultation with residents, businesses and climate action groups, the Council adopted its Strategic Climate Action Plan in July 2021. In 2025, the Council undertook a full review of the Strategic Climate Action Plan. In its action plan, the Council acknowledges that *'Heathrow's [Airport] location in the south, along with many strategic transport routes, results in an above-average borough wide carbon footprint.'*
Local Borough Planning Policy: • London Borough of Hounslow[28,29], • London Borough of Ealing[30]	The greenhouse gas reduction strategies and planning frameworks adopted by the relevant Local Planning Authorities seek to support the delivery of the UK's net zero target and integrate mitigation to limit GHG emissions into strategic planning and development design. Each local authority has recognised the need for urgent action to address climate change through

[26] London Borough of Hillingdon. Strategic Climate Action Plan. 2021. Available at: Our vision, declaration and plan to tackle the climate emergency | Hillingdon Council (Accessed: 29/09/2026)
[27] London Borough of Hillingdon. Climate Change Declaration 2030. Available at: https://pre.hillingdon.gov.uk/downloads/file/1359/climate-change-declaration-2030 (Accessed: 29/09/2026)
[28] London Borough of Hounslow. Climate Emergency Action Plan 2026-2030. 2026. Available at: https://www.hounslow.gov.uk/downloads/file/13151/climate-emergency-action-plan-2026-2030 (Accessed: 29/09/2026)
[29] London Borough of Hounslow. Local Plan Review. 2024. Available at: https://www.hounslow.gov.uk/local-plan/local-plan-review/6 (Accessed: 22/09/2026)
[30] London Borough of Ealing. Ealing Council's Climate Adaptation and Resilience Strategy 2026-2028. 2026. Available at: https://haveyoursay.ealing.gov.uk/uploads/4feb1b31-ba2c-45e5-bc0a-3bf2a1e25a82/files/file/content/47d499a6-32af-4849-b8ca-a73695a6edac/Draft_Ealing_Council_Climate_Adaptation_and_Resilience_Plan.pdf?Expires=1773654750&Signature=r4BTJLB7RVFxLEpYOpi1vViJuo62E9zDdDP-9WXE0PHdd~tf3e4anyM3BEivv3lDk-WGyYctTwJhRyDb1aQ8tihu35Zlr84vZ9uc4TZaN~riv8sXeB6WOgclFoLfziFqMYpBOsb416InS0FS1kOkuPv5ArKrpvUd0AoXVqnw2z9v6RbLbGkjPZZ3rRWKj1VFrPFy4gft3b26JwR2H4EWI04ANnzN13TKdBveKp5d0hifGyK3EU1jfKZOimRcQynqleGZGX2JS3MfI-kpmvbRi7jhB94Y5YxkL2Pi~DUrDfU2ApXxDocR8iylHXm7kDKxhjRNQyhOOUrdlpRk9ii57g__&Key-Pair-Id=K33PCIBF60FT3I (Accessed: 29/09/2026)

Relevant Policy	Relevance to assessment
• London Borough of Richmond upon Thames[31] • Royal Borough of Windsor and Maidenhead[32] • Slough Borough Council[33] • Spelthorne Borough Council[34] • Buckinghamshire Council[35] • Runnymede Borough Council[36]	formal climate emergency declarations between 2019 and 2020.

Table 8-2: Legislation relevant to the Greenhouse Gas assessment

Relevant Legislation	Relevance to assessment
Legislation - National	
Climate Change Act 2008[37] (2050 Target Amendment) Order 2019[38]	The Climate Change Act (CCA) 2008 established the context for government action on climate change, providing a legally binding framework for the UK to reduce GHG emissions and develop the UK's ability to adapt to climate change. In 2019, the UK Government committed to net zero carbon emissions by 2050 as part of the target amendment order. This updated the existing commitment in the CCA 2008, which originally provided for a target of an 80% reduction in UK GHG emissions by 2050

[31] London Borough of Richmond upon Thames. Adopted Local Plan. 2025. Available at: https://www.richmond.gov.uk/services/planning/planning_policy/local_plan/adopted_local_plan (Accessed: 22/09/2026)
[32] Royal Borough of Windsor and Maidenhead. Environment and Climate Strategy 2026-2035. 2026. Available at: https://www.rbwm.gov.uk/sites/default/files/2026-08/environment_and_climate_strategy_2026-2035.pdf (Accessed: 29/09/2026)
[33] Slough Borough Council. Climate Change Strategy and Action Plan. 2021. Available at: https://www.slough.gov.uk/downloads/file/2279/slough-borough-council-climate-change-strategy-action-plan-report-final (Accessed: 29/09/2026)
[34] Spelthorne Borough Council. Local Plan – March 2026. 2026. Available at: https://www.spelthorne.gov.uk/page/1383/local-plan-march-2026 (Accessed: 22/09/2026)
[35] Buckinghamshire Council. Draft Local Plan for Buckinghamshire 2045 (Regulation 19 Consultation). 2026. Available at: https://www.buckinghamshire.gov.uk/planning-building-and-environment/policy/buckinghamshire-local-plan/reg-19-consultation/ (Accessed: 22/09/2026)
[36] Runnymede Borough Council. Runnymede 2030 Local Plan. 2026. Available at: https://www.runnymede.gov.uk/planning-policy/runnymede-2030-local-plan (Accessed: 22/09/2026)
[37] UK Government. Climate Change Act. 2008. Available at: https://www.legislation.gov.uk/ukpga/2008/27/contents (Accessed: 29/09/2026)
[38] UK Government. Climate Change Act 2008 (2050 Target Amendment) Order. 2019. Available at: https://www.legislation.gov.uk/ukdsi/2019/9780111187654 (Accessed: 29/09/2026)

Relevant Legislation	Relevance to assessment
	(with reference to the 1990 baseline). The CCA 2008 now mandates a net zero target by 2050. The CCA 2008 (2020 Target, Credit Limit and Definitions) Order 2009[39] defines what is to be regarded as 'International Aviation' for the purposes of Section 30 of the CCA 2008[40]. This definition is to be brought forward into the ES assessment of GHGs. The CCA 2008 (International Aviation and International Shipping) Regulations 2026[41] allocates the UK's share of emissions from international aviation and international shipping to count as emissions from sources in the UK for the 2033-2037 budgetary period and all subsequent budgetary periods. The GHG assessment prepared for the ES will therefore respond to the legally binding UK net zero target.
Carbon Budget Orders[42]	The UK Carbon Budget Orders (CBO) are made in accordance with the duty to set carbon budgets as required by the CCA 2008. They set interim national reduction targets from the 1990 baseline across five-year periods. The carbon budgets do not require emissions from specific locations, or even specific sectors, to reduce so long as total emissions from the UK meet the budget limits. This enables net increases in emissions to be managed by balancing with performance in other sectors. The CBO 2021[43] formally adopted the Sixth Carbon Budget, establishing a GHG emissions limit for the UK of 965 $MtCO_2e$ for the period 2033-2037. The sixth carbon budget was the first to incorporate the UK's share of international aviation and shipping emissions into the national decarbonisation framework as well as the UK's 2050 net zero target.

[39] UK Government. The Climate Change Act 2008 (2020 Target, Credit Limit and Definitions) Order. 2009. Available at: https://www.legislation.gov.uk/uksi/2009/1258/contents/made (Accessed: 29/09/2026)
[40] UK Government. Section 30 of the Climate Change Act. 2008. Available at: https://www.legislation.gov.uk/ukpga/2008/27/section/30 (Accessed: 29/09/2026)
[41] UK Government. The Climate Change Act 2008 (International Aviation and International Shipping) Regulations. 2026. Available at: https://www.legislation.gov.uk/uksi/2026/727/made (Accessed: 29/09/2026)
[42] Department of Energy Security and Net Zero, DESNZ. Carbon budgets. 2016. Available at: https://www.gov.uk/guidance/carbon-budgets (Accessed: 29/09/2026)

Relevant Legislation	Relevance to assessment
	The CBO 2026[43] adopted the seventh carbon budget, setting a limit for GHG emissions of 535 $MtCO_2e$ for the period 2038 to 2042, including emissions from international aviation and shipping. The carbon budgets are in line with the UK's NDCs and therefore set a trajectory that is consistent with the Paris Agreement. The UK Carbon Budgets will be used to contextualise the GHG emissions from the Proposed Development at the ES stage.
The Greenhouse Gas Emissions Trading Scheme Order 2020[44]	The Greenhouse Gas Emissions Trading Scheme Order 2020 committed the UK Emissions Trading Scheme (UK ETS)[45] into law. The UK ETS was established with effect from 1 January 2021, at the point the UK stopped participating in the EU Emissions Trading System (EU ETS). The UK ETS is a formal system which facilitates carbon emissions trading covering emissions in the power, heavy industry and aviation sectors. The UK ETS will be considered in the GHG assessment as part of the legislative framework for national GHG emissions.
The Air Navigation Scheme (Carbon Offsetting and Reduction Scheme for International Aviation) Order 2021[46]	CORSIA was transposed into UK law through the Air Navigation Scheme Order 2021. It should be noted that both UK ETS and CORSIA have qualification rules which apply to airline operators to determine which aircraft, flights and operators fall within each scheme. Not all UK flight emissions are covered by either UK ETS or CORSIA, although at Heathrow the excluded flights are a small proportion. The Department for Transport (DfT) undertook a consultation between December 2024 and February 2025 to explore the interaction

[43] UK Government. The Carbon Budget Order. 2026. Available at: https://www.legislation.gov.uk/uksi/2026/695/article/2/made (Accessed: 29/09/2026)
[44] UK Government. The Greenhouse Gas Emissions Trading Scheme Order. 2020. Available at: https://www.legislation.gov.uk/uksi/2020/1265/contents (Accessed: 29/09/2026)
[45] Department for Energy Security and Net Zero, DESNZ. UK Emissions Trading Scheme (UK ETS). 2021. Available at: https://www.gov.uk/government/publications/uk-emissions-trading-scheme-uk-ets-policy-overview/uk-emissions-trading-scheme-uk-ets-a-policy-overview (Accessed: 29/09/2026)
[46] UK Government. The Air Navigation (Carbon Offsetting and Reduction Scheme for International Aviation) Order. 2021. Available at: https://www.legislation.gov.uk/uksi/2021/534 (Accessed: 29/09/2026)

Relevant Legislation	Relevance to assessment
	between UK ETS and CORSIA[47]. The intention of this consultation was to outline options to avoid double counting aviation emissions under both schemes. Potential offsetting and/or reductions measures relevant to the Proposed Development will be considered within the ES assessment.
Sustainable Aviation Fuel Mandate (2024)[48]	The Sustainable Aviation Fuel (SAF) Mandate is the UK's key policy to decarbonise aviation fuel by encouraging the supply of sustainable aviation fuels. The Mandate secures demand for SAF by obligating the supply of an increasing amount of SAF in the overall UK aviation fuel mix and incentivising SAF supply through the award of tradeable certificates with a cash value. The SAF Mandate started in 2025 at 2% of total UK jet fuel demand and increases linearly every year to 10% in 2030 and then to 22% in 2040. From 2040, the obligation will remain at 22% of total UK jet fuel demand until there is greater certainty regarding SAF supply. The SAF Mandate and the Renewable Transport Fuel Obligation (RTFO)[49] are part of the government's strategy on low carbon fuel. The GHG assessment will apply the proportion of SAF uptake that is set out within the SAF Mandate when estimating future emissions reductions as part of the future baseline and when estimating emissions associated with the Proposed Development.

[47] Department for Transport, DfT. Implementing the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). 2024. Available at: https://assets.publishing.service.gov.uk/media/67b4b82fb56d8b0856c2fe89/dft-implementing-corsia-consultation.pdf (Accessed: 29/09/2026)

[48] UK Government. Sustainable Fuel Mandate. 2026. Available at: https://www.gov.uk/government/collections/sustainable-aviation-fuel-saf-mandate (Accessed: 29/09/2026)

[49] Department for Transport, DfT. Renewable Transport Fuel Obligation (RTFO) scheme. 2026. Available at: https://www.gov.uk/government/collections/renewable-transport-fuel-obligation-rtfo-scheme (Accessed: 29/09/2026)

Relevant Legislation	Relevance to assessment
Building Regulations Part L Volume 2 (2021)[50]	The Buildings Regulations, specifically Approved Document Part L Volume 2, 'Conservation of Fuel and Power', determine the energy efficiency and carbon emission standards required by new buildings, other than dwellings. Part L was updated on the 15th June 2022 and amended in 2023. Part L addresses controls, for insultation values of building elements, the allow area of windows, doors and other openings, the air permeability of the structure, the heating efficiency of heating systems, hot water storage and lighting, mechanical ventilation and air conditioning systems, space heating controls, airtightness testing of larger buildings; and requirements for Carbon Index ratings.

[50] HM Government. The Building Regulations Approved Document L: Conservation of fuel and power. 2023. Available here: https://assets.publishing.service.gov.uk/media/63d8edbde90e0773d8af2c98/Approved_Document_L__Conservation_of_fuel_and_power__Volume_2_Buildings_other_than_dwellings__2021_edition_incorporating_2023_amendments.pdf (Accessed: 29/09/2026)

Table 8-3: Guidance relevant to the Greenhouse Gas assessment

Relevant Guidance	Relevance to assessment
Guidance - International	
GHG Protocol[51]	The GHG Protocol identifies emissions sources as falling under three "scopes", which are defined to enable GHG accounting and reporting; including direct GHG emissions, indirect GHG emissions (electricity) and other indirect GHG emissions (i.e. 'downstream' emissions). This guidance has been used to inform the methodology set out in this chapter.
Guidance - National	
Publicly Available Standard PAS 2080:2023 Carbon Management in Infrastructure[52]	PAS 2080 sets out a carbon management process for the delivery of infrastructure. PAS 2080 defines the life cycle stages of an infrastructure project and the primary sources of GHG emissions.. PAS 2080 lifecycle stages have been used to define the assessment boundary and categorise GHG emission sources across the whole life of the Proposed Development. This approach facilitates a comprehensive assessment of construction and operational GHG emissions.
ISEP EIA Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance with Supplementary Guidance (Edition 2.1)[53]	ISEP GHG guidance sets out the methodology for assessing GHGs within EIA, including guidance on determining significance of effects. This guidance has informed the methodology set out in this chapter.

[51] WBCSD and WRI. The GHG Protocol: A Corporate Accounting and Reporting Standard. WBCSD, Geneva and WRI, Washington DC. 2004.

[52] BSI. Carbon Management in Infrastructure and Built Environment (PAS 2080:2023). 2023. Available at: https://www.bsigroup.com/en-GB/insights-and-media/insights/brochures/pas 2080-carbon-management-in-infrastructure-and-built-environment/ (Accessed: 29/09/2026)

[53] ISEP (2026) Assessing greenhouse gas emissions and evaluating their significance with supplementary guidance (Edition 2.1). Available at: https://www.isepglobal.org/media/iimlrmqw/2026-04-comms-policy-ia-ghg-assessment.pdf (Accessed: 29/09/2026)

Relevant Guidance	Relevance to assessment
DfT Transport Appraisal Guidance (TAG) Unit A3 Environmental Impact Appraisal[54]	TAG Unit A3, Chapter 4 (Greenhouse Gases) provides guidance on the assessment, quantification and reporting of greenhouse gas emissions arising from transport schemes. This includes the use of approved appraisal tools such as the Emissions Factor Toolkit (EFT). In addition, guidance is provided on assessing the monetary value of the impacts of proposed transport schemes on carbon emissions over their whole lifecycle should also be calculated. This guidance has informed the methodology set out in this chapter.
RICS whole life carbon assessment for the built environment[55]	Provides standardised guidance for assessing and reporting whole life carbon emissions across the built asset life cycle, including embodied, operational and user carbon. It will inform the life cycle boundaries and reporting approach for the GHG assessment.

8.3 Stakeholder Engagement

8.3.1.1 **Table 8-4** sets out the relevant authorities and stakeholders likely to be consulted as part of the stakeholder engagement process. The list included below is not exhaustive.

Table 8-4: Engagement with Stakeholders

Consultee	Engagement undertaken to date	Proposed Future Engagement
Environment Agency	None undertaken to date	Consultation with relevant authorities and stakeholders will take place after EIA Scoping to present the proposed approach to the

[54] Department for Transport, DfT. TAG Unit A3. Environmental Impact Appraisal, Chapter 4: Greenhouse Gases. 2026. Available at: https://assets.publishing.service.gov.uk/media/6a0344454fb0713aa63ea819/tag-unit-a3-environmental-impact-appraisal.pdf (Accessed: 29/09/2026)

[55] RICS. Whole life carbon assessment for the built environment. 2024. Available at: https://www.rics.org/profession-standards/rics-standards-and-guidance/sector-standards/construction-standards/whole-life-carbon-assessment (Accessed: 29/09/2026)

Consultee	Engagement undertaken to date	Proposed Future Engagement
Heathrow Strategic Planning Group	None undertaken to date	assessment of the Proposed Development's likely significant effects in relation to GHGs. Further consultation will be expected to take place during the main assessment of the ES.
Natural England	None undertaken to date	
UK Health Security Agency	None undertaken to date	
London Borough of Hillingdon	None undertaken to date	
Other relevant LPAs	None undertaken to date	

8.4 Study Area

8.4.1 Study Area

8.4.1.1 The study area for the GHG emissions assessment is defined by the location of source emissions associated with the construction and operation of the Proposed Development. Primarily, the study area comprises of the Scoping Boundary (for on-site emissions), which encompasses sources such as (but not limited to) fuel use during construction, ground vehicular movement within the Scoping Boundary and the Landing and Take-off (LTO) cycle of aeroplanes.

8.4.1.2 In some instances, a wider area of influence needs to be considered due to the upstream and downstream nature of GHG emissions, where the area of influence extends beyond the Scoping Boundary. This will include emissions such as (but not limited to) ground and air transport emissions beyond the Scoping Boundary for staff and passengers, emissions associated with electricity consumption (which is not generated within the Scoping Boundary, but via the relevant Distribution Network Operator (DNO)), and emissions associated with potable water use (which is supplied via the off-site local water authority).

8.4.1.3 As GHG emissions are global and cumulative with all other sources of emissions, and the single receptor is the global atmosphere, no specific geographical study area is defined in which to consider the impacts.

8.4.2 Temporal Scope

8.4.2.1 The anticipated timeframes for construction and opening year of the Proposed Development are not known at this stage and will be confirmed at the ES stage. The assessment will assume a 60-year design life of the Proposed Development, although it is likely that it will continue to be operational beyond this timeframe.

8.4.2.2 It is anticipated that the emissions from the Proposed Development will be contextualised against the fifth[56], sixth[57] and seventh[58] Carbon Budgets, however this will be confirmed once assessment years have been identified.

8.5 Sources of Data used in Scoping

8.5.1 Baseline Sources

8.5.1.1 A desk-based study has been undertaken to establish the existing and future baseline context for the Scoping Boundary. **Table 8-5**

Source	Relevance to the assessment
Heathrow Sustainability Performance Data Book 2025	GHG assessment within the data book is used to inform baseline emissions from existing operations within the Scoping Boundary.
UK Carbon Budgets	The UK Carbon Budgets place a restriction on the total amount of greenhouse gases the UK can emit over a 5-year period. These budgets set out the net zero trajectory for the UK to align with the Paris Agreement. These budgets provide a baseline against which future greenhouse gas emissions can be contextualised and assessed.

[56] Legislation UK. The Carbon Budget Order. 2016. Available at: https://www.legislation.gov.uk/uksi/2016/785/made(Accessed: 29/09/2026)
[57] Legislation UK. The Carbon Budget Order. 2021. Available at: https://www.legislation.gov.uk/uksi/2021/750/contents/made (Accessed: 29/09/2026)
[58] Legislation UK. The Carbon Budget Order. 2026. Available at: https://www.legislation.gov.uk/uksi/2026/695/contents/made (Accessed: 29/09/2026)

Source	Relevance to the assessment
Department of Energy Security and Net Zero UK Provisional (2025) and Final for (2024) Emissions Figures	The UK territorial greenhouse gas emissions statistics provide the official measure of GHG emissions produced within the UK's borders. They are published in two stages each year: • Final emissions: the quantity of greenhouse gases emitted within the UK's borders within a given year; and • Provisional emissions: an early estimate based on the latest available energy and activity data.
DESNZ Local Authority Figures	The DESNZ Local Authority Territorial Greenhouse Gas Emissions Statistics provide a nationally consistent estimate of greenhouse gas emissions for each local authority area, which for this project will be specifically for 'London'.

8.5.1.2 sets out the data sources that have been reviewed to establish the baseline conditions and guidance documents that have informed the methodology.

Table 8-5: Data sources used for scoping

Source	Relevance to the assessment
Heathrow Sustainability Performance Data Book 2025[59]	GHG assessment within the data book is used to inform baseline emissions from existing operations within the Scoping Boundary.
UK Carbon Budgets[60]	The UK Carbon Budgets place a restriction on the total amount of greenhouse gases the UK can emit over a 5-year period. These budgets set out the net zero trajectory for the UK to align with the Paris Agreement. These budgets

[59] Heathrow Airport. Heathrow Sustainability Performance Data Book 2025. 2026. Available at: https://www.heathrow.com/content/dam/heathrow/web/common/documents/company/heathrow-2-0-sustainability/reports/2025/2025_Sustainability_Performance_Data_Book.pdf (Accessed: 29/09/2026)

[60] Department for Energy Security and Net Zero (DESNZ). Carbon Budgets. 2026. Available at: https://www.gov.uk/guidance/carbon-budgets (Accessed on: 29/09/2026).

Source	Relevance to the assessment
	provide a baseline against which future greenhouse gas emissions can be contextualised and assessed.
Department of Energy Security and Net Zero UK Provisional (2025)[61] and Final for (2024)[62] Emissions Figures	The UK territorial greenhouse gas emissions statistics provide the official measure of GHG emissions produced within the UK's borders. They are published in two stages each year: • Final emissions: the quantity of greenhouse gases emitted within the UK's borders within a given year; and • Provisional emissions: an early estimate based on the latest available energy and activity data.
DESNZ Local Authority Figures[63]	The DESNZ Local Authority Territorial Greenhouse Gas Emissions Statistics provide a nationally consistent estimate of greenhouse gas emissions for each local authority area, which for this project will be specifically for 'London'.

8.6 Baseline Conditions

8.6.1 Baseline Description

8.6.1.1 A desk-based study has been undertaken to establish the existing and future baseline context within the Site Scoping Boundary and surrounding area using the sources identified in **Table 8-5**.

[61] Department for Energy Security and Net Zero, DESNZ. 2025 UK greenhouse gas emissions: provisional figures – statistical release. 2026. Available at: https://www.gov.uk/government/statistics/provisional-uk-greenhouse-gas-emissions-statistics-2025/2025-uk-greenhouse-gas-emissions-provisional-figures-statistical-release (Accessed: 29/09/2026)

[62] Department for Energy Security and Net Zero, DESNZ. 2024 UK Greenhouse Gas Emissions, Final Figures. 2026. Available at: https://assets.publishing.service.gov.uk/media/6982292019d3abdb495f37cd/2024-final-greenhouse-gas-emissions-statistics-statistical-release.pdf (Accessed: 29/09/2026)

[63] Department for Energy Security and Net Zero, DESNZ. UK local and regional greenhouse gas emissions statistics, 2005-2024. Available at: https://assets.publishing.service.gov.uk/media/6a3bacc6da47783d87723902/2024-local-and-regional-greenhouse-gas-emissions-statistics-statistical-release.pdf (Accessed: 29/09/2026)

National Baseline Emissions

8.6.1.2 The CCA 2008, as amended, requires the government to set five-yearly carbon budgets, after taking advice from the Committee on Climate Change (CCC). The budgets are fixed in advance and set five-year caps on the total GHG emissions allowed to ensure the UK meets its emissions reductions commitments.

Table 8-6: 2008-2027 UK Carbon Budget

UK Budget	Carbon budget level (million tonnes carbon dioxide equivalents - $MtCO_2e$)	Reduction below 1990 levels	Recorded UK Emissions
1st Carbon Budget (2008 to 2012)	3,018 $MtCO_2e$	25%	2,982 $MtCO_2e$
2nd Carbon Budget (2013 to 2017)	2,782 $MtCO_2e$	31%	2,398 $MtCO_2e$
3rd Carbon Budget (2018-2022)	2,544 $MtCO_2e$	37%	2,152 $MtCO_2e$
4th Carbon Budget (2023-2027)	1,950 $MtCO_2e$	52%	Current Budget Period

8.6.1.3 From a national perspective, in 2024 UK total net territorial emissions were estimated to be 373 million tonnes carbon dioxide equivalent ($MtCO_2e$)[58], a decrease of 3% compared to 2023, mainly due to a decrease in gas use in electricity supply. UK territorial GHG emissions in 2024 were 53% lower than they were in 1990. Provisional figures for 2025[57] show an estimate of 367 $MtCO_2e$, a decrease of 2% from 2024, linked to decreased blast furnace use in the industry sector and decreased coal use in the electricity supply. It should be noted that these emissions, and those in **Table 8-7**, exclude international aviation emissions.

8.6.1.4 DESNZ sets out the territorial CO_2e emission estimates from a number of sources for 2005-202459 which are the most up to date available figures for the UK, the South East, and London. The CO_2e estimates for 2024 are presented in **Table 8-7** below.

Table 8-7: National, South East and London territorial CO_2e estimates for 2024

	UK Local Authority Total ($ktCO_2e$)	South East ($ktCO_2e$)	London ($ktCO_2e$)
Industry	52,189.0	2,907.9	2,656.7
Commercial	27,506.1	3,695.5	5,364.0
Public Sector	10,649.8	1,360.7	1,580.2
Domestic	78,060.7	10,945.0	8,782.1
Transport (road, rail and other)	112,999.4	16,458.6	6,979.7
Land Use, Land Use Change and Forestry	266.4	-1,730.1	15.8
Agriculture	48,167.3	2,819.4	55.5
Waste Management	21,434.0	2,692.7	1,948.5
Total	**351,272.8**	**39,149.6**	**27,382.6**

8.6.1.5 Based on the figures in **Table 8-7**, London accounts for approximately 69.9% of emissions in the South East, and 7.8% of the total UK emissions. The largest source of emissions within London are Transport (42%), followed by Domestic (28%) and Commercial (9%).

Local Baseline Emissions

8.6.1.6 The existing baseline presented in **Table 8-8** represents conditions under a two-runway Heathrow Airport for 2025, in line with the most up to date publications of the Heathrow Sustainability Performance Data Book 2025[64]. These emissions do not fall within the Scoping Boundary but are instead associated with the existing operational Heathrow Airport that is adjacent to the Scoping Boundary.

8.6.1.7 The Heathrow Sustainability Performance Data Book (2025) contains the most up to date GHG reporting for Heathrow, covering emissions associated with Heathrow buildings, infrastructure and Heathrow-owned vehicles, as well as emissions which include aircraft, surface access, supply chain and Team Heathrow vehicles. See

[64] Heathrow Airport. Heathrow Sustainability Performance Data Book 2025. 2026. Available at: https://www.heathrow.com/content/dam/heathrow/web/common/documents/company/heathrow-2-0-sustainability/reports/2025/2025_Sustainability_Performance_Data_Book.pdf (Accessed: 29/09/2026)

Table 8-8 below for a summary of 2025 emissions across various emission sources.

Table 8-8: Summary of Emissions from Sources at the existing two-runway Heathrow site in 2025*

Emission Category	Description	2025 Emission Reporting (tonnes CO_2e)
Aircrafts	Emissions associated with the cruise of all departure flights, aircrafts in the landing and take-off cycle, de-icing.	18,576,564
All Electricity Use	Emissions associated with grid electricity consumption (market-based, which reflects 0 $kgCO_2e$/Unit where electricity supply is REGO-backed) which includes for downstream leased assets.	3
Ground Travel	Emissions associated with the ground travel of passengers and staff.	533,742
Heathrow Site Vehicles and Equipment	Emissions associated with operational vehicles and equipment.	9,571
Site Utilities	Emissions associated with water consumption, wastewater, waste, fuel consumption utilities and fuel consumption utilities associated with downstream leased assets.	21,407
Goods and Services	Emissions associated with purchased good and services and capital goods and its supply chain.	266,303
Other	Emissions associated with other sources such as third-party refrigerants, losses associated with refrigerant, Heathrow business-related travel, Liquefied Petroleum Gas (LPG) for fire training, de-icer, non-road construction vehicles.	8,286

* Data taken from Heathrow Sustainability Performance Reporting

8.6.1.8 The Scoping Boundary contains an area of former landfill, which could be a source of GHG emissions, including non-CO_2 emissions. In addition, the Scoping Boundary contains existing land uses which include residential buildings, community facilities, utilities, infrastructure and an energy from waste plant. These land uses will have associated operational emissions from, for example, gas and electric utilities for heating and power.

8.6.1.9 The ES will include the latest Heathrow Airport GHG emissions available at the time of submission.

8.6.2 Future Baseline Conditions

Future National Baseline Emissions

8.6.2.1 The fourth[65], fifth[56], sixth[57] and seventh[58] Carbon Budgets, as set out in **Table 8-9** below, are the next milestones on the UK's pathway to net zero. The sixth Carbon Budget, for the period 2033-37, is the first budget to consider the UK's 2050 net zero target and emissions from international aviation and shipping. This pathway is in line with the UK's NDCs and therefore, on a trajectory that is consistent with the Paris Agreement. The seventh Carbon Budget, for the period 2038-2042 was approved in June 2026 by the UK Government. The seventh carbon budget sets a target of reducing GHG emissions by an average of 87% lower than the 1990 baseline emissions.

Table 8-9: UK Carbon Budget Targets (2023-2042)

UK Budget	Carbon budget level (million tonnes carbon dioxide equivalents - $MtCO_2e$)	Reduction below 1990 levels
4th Carbon Budget (2023-2027)	1,950 $MtCO_2e$	52%
5th Carbon Budget (2028-2032)	1,725 $MtCO_2e$	57% by 2030
6th Carbon Budget (2033-2037)	965 $MtCO_2e$	78% by 2035
7th Carbon Budget (2038-2042)	535 $MtCO_2e$	87% by 2040

Future Local Baseline Emissions

8.6.2.2 The future baseline will represent a no-development (do-minimum) scenario over the 60-year assessment period, which will consist of a two-runway Heathrow Airport development. The future baseline that will be assessed for the GHG assessment within the ES will primarily include future baseline aviation emissions and future baseline surface transport emissions, given the integration and

[65] Legislation UK. The Carbon Budget Order. 2011. Available at: https://www.legislation.gov.uk/uksi/2011/1603/made (Accessed: 29/09/2026)

influence of these emission sources within the Proposed Development when considering a do-something scenario.

8.6.2.3 The existing buildings and infrastructure within the Scoping Boundary, which are independent of the two-runway Heathrow Airport development, cannot be robustly assessed within the future baseline given the unknown design and ages of these buildings. A reasonable worst-case scenario will be taken forward, where the future baseline from these buildings are considered to be zero.

8.6.2.4 The UK Government has published several national strategies that are intended to aid the reduction of UK emissions in line with the legally binding carbon budgets and the 2050 net zero target. The future baseline will be developed to reflect the relevant strategies associated with emissions relevant to the assessment of the baseline and the Proposed Development. These strategies are not dependent on the delivery of the Proposed Development. This includes, for example, the decarbonisation of the national grid which is an outcome of the continued uptake of renewable energies and the decline of coal-fired power stations across the UK.

8.6.2.5 Further information on how the future baseline will reflect decarbonisation is set out in **Table 8-10** below.

Table 8-10: Approach to Future Baseline Decarbonisation

Evolution to Future Baseline Emissions	Data Source
Decarbonisation of the UK national grid	Using the carbon factors within the Department for Energy Security and Net Zero Green Book[66] data table for decarbonisation of grid electricity (Table 1[67])
Changes to road vehicle fleet composition	Using the data of decarbonisation and change to vehicle fleet within transport calculations, including the uptake of electric vehicles, set out within TAG Unit A3 and TAG data book[68]

[66] Department for Energy Security and Net Zero, DESNZ. Green Book supplementary guidance: valuation of energy use and greenhouse gas emissions for appraisal. 2023. Available at: https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal (Accessed: 29/09/2026)

[67] Department for Energy Security and Net Zero, DESNZ. Data tables 1 to 19: supporting the toolkit and the guidance. 2023. Available at: https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal(Accessed: 29/09/2026)

[68] Department for Transport. TAG data book. 2026. Available at: https://www.gov.uk/government/publications/tag-data-book (Accessed: 29/09/2026)

Evolution to Future Baseline Emissions	Data Source
Planned future changes to the operation of the existing Heathrow Airport	To be confirmed at the ES stage based on available information for Heathrow Airport. This may include increase in renewable energy, changes to existing flight patterns and frequency based on predicted passenger demand.
Uptake of SAF in aviation fuel use and zero emission aircraft	The SAF Mandate obligates the supply of SAF to increase linearly to 10% in 2030 to 22% in 2040. The obligation will remain at 22% until there is greater certainty regarding SAF supply. Therefore, the assessment will apply 22% to assessment years beyond 2040.

8.7 Likely Significant Effects Requiring Assessment

8.7.1.1 ISEP GHG Guidance identifies that all GHG emissions from projects will contribute to climate change and that all new GHG emissions contribute to a negative environmental impact.

8.7.1.2 The GHG Protocol categorises direct and indirect emissions into three broad scopes (Scope 1, Scope 2 and Scope 3). Reporting the emissions for the Proposed Development within an EIA against these scopes is complex as the GHG Protocol is intended as guidance for corporate reporting, rather than on a project basis that may include multiple corporate entities. As such, emissions will not be classified as falling under Scope 1, 2 or 3 within the ES. Instead, direct and indirect emissions (including upstream and downstream emissions) will be considered through the use of the lifecycle stages defined by PAS 2080 and RICS guidance, which are set out in **Table 8-11** and **Table 8-12**.

8.7.2 Construction

8.7.2.1 The scope of the GHG Emissions assessment during the construction phase of the Proposed Development, using the PAS 2080 lifecycle stages, are set out in **Table 8-11**.

Table 8-11: GHG Emission Sources and Assessment Scope (PAS 2080) during the Construction

and Demolition Phase

PAS 2080 Lifecycle Stages	Emissions and Activities with Potential for Likely Significant Effects
A1- A3 Product Stages	Embodied carbon from the extraction, processing and manufacturing of purchased materials required to construct the Proposed Development.
A4 Transport to Works Site	Transport of construction materials to the Scoping Boundary. Transport of construction materials to within the Scoping Boundary. Transport of construction workers and terminal staff to the Scoping Boundary. Transport of construction workers and terminal staff to within the Scoping Boundary. Transportation of standard and/or abnormal or hazardous waste from the Scoping Boundary. Transportation of standard and/or abnormal or hazardous waste from within the Scoping Boundary.
A5 Construction – Installation Process	Construction process emissions resulting from the combustion of fuels in the Applicant's owned/controlled vehicles, plant, or equipment used for construction of the Proposed Development.
	Emissions associated with electricity from off-site generation needed for plant and welfare facilities that come from a mains connection during construction.
	Emissions from waste processing.
	Emissions from water supply and treatment.
	Emissions from land use change, earthworks and soil disturbance.

8.7.3 Operation

8.7.3.1 The scope of the GHG Emissions assessment during the operational phase using the PAS 2080 lifecycle stages are set out in **Table 8-12**.

Table 8-12: GHG Emission Sources and Assessment Scope (PAS 2080) during the Operational Phase

PAS 2080 Lifecycle Stages	Emissions and Activities with Potential for Likely Significant Effects
B1 Use	Emissions from airside and landside vehicles and equipment.

PAS 2080 Lifecycle Stages	Emissions and Activities with Potential for Likely Significant Effects
	Emissions arising from use of refrigerants.
	Emissions arising from waste disposal and processing.
	Emissions arising from air transport, including: • Aircraft in the LTO Phase for: ○ Flights departing and arriving at Heathrow; ○ Flights landing at other airports from Heathrow-departing Flights; ○ Flights departing from other airports with Heathrow as the end-destination. • Departing and arriving flights in Climbing Cruise Descent (CCD) Phase; • Aviation fuel use in Auxiliary Power Units (APUs); • Aircraft engine testing; • Well-to-tank emissions.
	Carbon sequestration associated with landscaping and green infrastructure.
	Emissions arising from the use of liquefied petroleum gas for fire training.
B2-B5 Maintenance, Repair, Replacement, Refurbishment	Transport emissions, purchased materials, waste and on-site fuel use required for maintenance of on-site infrastructure and buildings.
B6 Operational Energy Use	Emissions associated with energy required for heating, cooling, lighting, and power needs of buildings, airport infrastructure and activities. This includes purchased electricity from the National Grid and distribution network, and on-site biomass, and diesel/petrol consumption.
B7 Operational Water Use	Emissions associated with potable water supply for use and treatment of wastewater.
B8 User Utilisation	Emissions arising from passenger, staff and freight surface access (rail and road).

8.7.4 Decommissioning

8.7.4.1 Design elements with short lifespans, primarily related to energy and infrastructure, will be maintained and replaced during the operational lifetime of the

Proposed Development and accounted for within B2-B5 PAS2080 lifecycle stages. Therefore, a separate assessment of decommissioning in relation to these elements is not proposed.

8.7.4.2 Some design aspects such as bridges and roads typically have longer lifespans than other design elements, therefore it is not realistic to assume that all elements of the Proposed Development would be decommissioned at the same time. The Proposed Development is assumed to have a minimum design life of 60 years for the purpose of the EIA, although the Proposed Development is anticipated to form a permanent part of Heathrow Airport infrastructure and operations and as such no specific year for end of life has been established. It is therefore assumed that any decommissioning activities would occur after 2099, where technology and methodologies for decommissioning are not yet known. This is after the 2050 net zero legally binding target for the UK. Therefore, it can be reasonably assumed that the Proposed Development will be compliant with future regulations and best practice standards decommissioning activities that consider a net zero economy. This could be in the form of the use of alternatives to fossil fuels, utilising forms of low-carbon technology and transportation.

8.7.4.3 Circular design principles will be addressed within wider planning documentation, including the submission of a Circular Economy Statement which will be appended to the Materials and Waste ES Chapter. This document will address strategies to improve resource efficiency and design out waste. This will in turn, reduce emissions during any potential future decommissioning. Further information is set out **in Chapter 18: Materials and Waste**.

8.7.4.4 As a result, significant effects from the Proposed Development are not anticipated and decommissioning with regard to the full Proposed Development is scoped out of the GHG assessment.

Table 8-13: Likely Significant Effects on Climate Change

Activity	Effect	Receptor
Construction		
Construction activities such as transport, fuel use, purchased materials.	Direct and indirect GHG emissions released as a result of construction activities as set out in **Table 8-11**.	Global atmosphere
Operation		

Activity	Effect	Receptor
Operation activities such as aircraft traffic movements, energy use, surface access.	Direct and indirect GHG emissions released as a result of the operation of the Proposed Development as set out in **Table 8-12**.	Global atmosphere
Decommissioning		
N/A		

8.8 Effects Not Requiring Assessment

8.8.1.1 Several indirect activities are considered appropriate to be scoped out of the GHG assessment which could result in the release of indirect downstream GHG emissions, as defined in **Table 8-14**Table 8-14, due to the effects being too speculative or there is an insufficient causal link to the Proposed Development and therefore presents no practical means to be meaningfully assessed. As a result, these will be scoped out of the EIA GHG assessment and not considered further.

Table 8-14: Potential Effects to be Scoped Out of the CCRA

Activity	Effect	Receptor	Justification for scoping out
Onward tourism activities (UK or abroad), after passengers have arrived at the Proposed Development. This may include accommodation, food, drink and shopping, recreational activities, water use and waste generation.	Release of indirect downstream GHG emissions	Global atmosphere	Emissions associated with onward tourism activities are highly dependent on individual passenger choices. These activities may occur across the UK or internationally and would be influenced by a wide range of factors unrelated to the Proposed Development. As such, these tourism activities are not reasonably foreseeable and there is no robust or proportionate method to quantify these emissions as part of the GHG assessment.

Activity	Effect	Receptor	Justification for scoping out
Indirect and induced economic activity (local or national), including the potential for other airports to expand capacity to accommodate additional air traffic from Heathrow.	Release of indirect downstream GHG emissions	Global atmosphere	Although increased airport capacity may contribute to wider economic activity, the type, location, scale and timing of that activity cannot be predicted with sufficient certainty. As such, these activities are not reasonably foreseeable and there is no robust or proportionate method to quantify these emissions as part of the GHG assessment.
Construction and subsequent operation of any replacement of displaced uses that will not be re-provided as part of the Proposed Development, such as residential development, community facilities, utilities and infrastructure.	Release of indirect downstream GHG emissions	Global atmosphere	It may not be appropriate to replace the exact scale and type of uses that are currently within the Scoping Boundary, due to a variety of factors including changes to Building Regulations and local authority requirements and needs e.g. housing type. Any assessment of these indirect emissions would necessarily be speculative, given there is no available information on the quantum, design and location of any potential new development that would come forward to replace the existing land use within the Scoping Boundary.

Activity	Effect	Receptor	Justification for scoping out
Decommissioning of the Proposed Development	Release of direct and indirect GHG emissions	Global atmosphere	No set date for decommissioning of full Proposed Development has been established, and the Proposed Development is expected to be a permanent part of Heathrow Airport infrastructure and operations. Where specific elements are identified to have a shorter design life that may require replacement, repair, maintenance or refurbishment will be accounted for in operation emissions under PAS2080 B2-B5 lifecycle stage.

8.9 Proposed Approach to Assessment

8.9.1.1 The assessment approach draws upon ISEP GHG Guidance, DfT TAG Guidance and professional judgement as competent professionals. As outlined in **Section 1.7**, ISEP GHG Guidance identifies all GHG emissions from projects will contribute to climate change and that all new GHG emissions contribute to a negative environmental impact.

8.9.1.2 The methodology of this assessment will adopt emission boundaries (i.e. defining the scope of emissions) that align with the GHG Protocol and Publicly Available Standard (PAS) 2080: Carbon Management in Infrastructure.

8.9.1.3 The metric for assessing the carbon emissions is units of CO_2 equivalent (CO_2e). This allows the use of the Global Warming Potential (GWP) for the emissions of seven key GHGs, including carbon and methane, to be expressed in terms of their equivalent GWP as a mass of CO_2e.

8.9.1.4 A Whole Life Carbon Assessment (WLCA) will be prepared and submitted with the DCO Application. The WLCA will form part of the evidence base for the GHG ES Chapter.

8.9.1.5 The GHG emissions will be calculated by multiplying activity data by the relevant carbon factor. The equation is as follows:

Activity Data * Carbon Emissions Factor = Carbon Emissions

8.9.1.6 Carbon factors will be sourced from recognised industry databases, such as the Government's greenhouse gas reporting the Department of Energy Security and Net Zero Activity data will be based on project information available at the time of assessment. Where information is not available, a qualitative assessment will be undertaken instead.

8.9.1.7 The GHG assessment will utilise the same assumptions and decarbonisation factors and strategies for the Proposed Development emissions as those applied for the Future Baseline assessment, where relevant. See **Section 8.6.2** for considerations during the calculation of future baseline GHG emissions.

Non-CO_2 Emissions

8.9.1.8 In addition to CO_2, aviation gives rise to non-CO_2 impacts from nitrogen oxides, contrail cirrus clouds, sulphur oxides, water vapour and particles. These happen in flight and include factors which cause both warming and cooling in the atmosphere.

8.9.1.9 There is substantial uncertainty regarding the magnitude of aviation's non-CO_2 impacts on climate and there is no well-established methodology for quantifying non-CO_2 emission impacts. The Government's JZS acknowledges this. In addition, non-CO_2 emissions of aviation are not included within UK Carbon Budgets and as such any comparison to them would be incompatible.

8.9.1.10 In accordance with the draft HENPS, the ES will therefore include a qualitative assessment of the potential climate effects associated with non-CO_2 aviation emissions associated with the Proposed Development. Mitigation measures associated with these impacts will also be considered within the ES.

International Aviation Emissions

8.9.1.11 As set out in **Table 8-12**, both departing and arriving flights to and from Heathrow in LTO and CCD stages will be accounted for within the assessment to capture direct and indirect emissions that have a causal link with the Proposed Development. However, international reporting methods under the UNFCCC Kyoto Protocol, which the UK Carbon Budget methodology aligns to, only include for outbound flights to avoid double-counting of international aviation emissions within national budgets.

8.9.1.12 The Proposed Development's emissions will be contextualised against the UK Carbon Budgets (see **Section 8.9.3** for further information on contextualisation) and when doing so, only emissions that that fall within the scope of the UK Carbon Budgets will be used. As such, contextualisation against UK Carbon Budgets will exclude international inbound flights. This approach also aligns with the draft HENPS.

8.9.1.13 It should also be noted that the majority of indirect well-to-tank emissions, which result from upstream activities associated with the extraction, refining, processing

and transport of fuel, are not included in UK Carbon Budgets as the supply chain for fossil fuels are generally global. As such, well-to-tank emissions will also be excluded from the contextualisation of the Proposed Development's emissions to the UK Carbon Budgets.

8.9.2 Sensitivity of Receptors

8.9.2.1 The sensitivity of a receptor/resource within this chapter is based on its relative importance and rarity at different spatial scales. This may differ from other chapters as it follows ISEP GHG guidance; the single receptor for GHG emissions is the global atmosphere which, given the severe consequences of global climate change and the cumulative contributions of all GHG emission sources, will always be given a High sensitivity.

8.9.2.2 GHG emissions have a global effect rather than directly affecting specific local receptors to which levels of sensitivity can be assigned. The global climate will therefore be treated as a single receptor. Given the global scale and severe consequences of climate change and limited recoverability, the receptor sensitivity is considered to be high.

8.9.3 Significance Criteria

8.9.3.1 There is an absence of an industry-wide agreed threshold of carbon emissions which, if exceeded, can be defined as significant or potentially significant. The ISEP GHG Guidance acknowledges that emissions of any scale contribute cumulatively to global climate change, the consequences of which has potential to lead to significant effects.

8.9.3.2 ISEP GHG Guidance identifies three underlying principles to inform the assessment of significance and concludes that:

"The GHG emissions from all projects will contribute to climate change, the largest interrelated cumulative environmental effect;

The consequences of a changing climate have the potential to lead to significant environmental effects on all topics in the EIA Directive (e.g. human health, biodiversity, water, land use, air quality); and

GHG emissions have a combined environmental effect that is approaching a scientifically defined environmental limit; as such any GHG emissions or reductions from a project might be considered to be significant."

8.9.3.3 A key consideration in determining significance is setting the context for the magnitude of GHG emissions. The relevant context here are the national carbon budgets which define a level of GHG emissions that would result in dangerous climate change. The UK has set a legally binding GHG reduction target for 2050 which, according to the CCC, is compatible with the magnitude and rate of GHG emission reductions required in the UK to meet the goals of the Paris Agreement.

8.9.3.4 Given this, ISEP GHG Guidance states that "the crux of significance is not whether a project emits GHG emissions, not even the magnitude of GHG emissions alone, but whether it contributes to reducing GHG emissions relative to a comparable baseline consistent with a trajectory towards net zero by 2050."

8.9.3.5 Significance of effects will therefore be determined using professional judgement as a 'competent professional', and with consideration of the following elements:

- Appraisal of the Proposed Development's emissions in the context of national, regional and sector emissions through establishing the current and future baselines. The net lifecycle GHG emissions of the Proposed Development will be contextualised against relevant carbon budgets, including the UK Carbon Budgets and the UK Nationally Determined Contributions. Further consideration to sources that can provide appropriate contextualisation, such as sector emissions, will be confirmed following consultation (see **Table 8-4** for list of consultees) and in accordance with the policy framework in place at the time of assessment. These budgets show a trajectory to Net Zero by 2050;
- ISEP EIA Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance;
- How the Proposed Development has embedded design features to reduce GHG emissions and committed to identified opportunities for mitigation in the Proposed Development's design and delivery.

8.9.3.6 The assessment will apply the following significance criteria in **Table 8-15**, that is set out in the ISEP GHG Guidance.

Table 8-15: Significance Criteria

Significance	Description
Major Adverse	The Proposed Development's GHG impacts are not mitigated or are only compliant with do-minimum standards set through regulation, and do not provide further reductions required by existing local and national policy for projects of this type. A project with very large - large adverse effects is locking in emissions and does not make a meaningful contribution to the UK's trajectory towards net zero.
Moderate Adverse	The Proposed Development's GHG impacts are partially mitigated and may partially meet the applicable existing and emerging policy requirements but would not fully contribute to decarbonisation in line with local and national policy goals for projects of this type. A project with moderate adverse effects falls short of fully contributing to the UK's trajectory towards net zero.
Minor Adverse	The Proposed Development's GHG impacts would be fully consistent with applicable existing and emerging policy requirements and good practice design standards for projects

Significance	Description
	of this type. A project with slight adverse effects is fully in line with measures necessary to achieve the UK's trajectory towards net zero.
Negligible	The Proposed Development's GHG impacts would be reduced through measures that go well beyond existing and emerging policy and design standards for projects of this type, such that radical decarbonisation or net zero is achieved well before 2050. A project with neutral effects provides GHG performance that is well 'ahead of the curve' for the trajectory towards net zero and has minimal residual emissions.
Beneficial*	The project's net GHG impacts are below zero and it causes a reduction in atmospheric GHG concentration, whether directly or indirectly, compared to the without-project baseline. A project with beneficial effects substantially exceeds net zero requirements with a positive climate impact.

* In line with the ISEP Guidance, beneficial effects in regard to greenhouse gases are not categorised on a minor to major scale. If the net GHG impacts are below zero, the effect would simply be beneficial.

8.9.3.7 The significance of a project's emissions should therefore be based on its net impact over its lifetime, which may be beneficial, adverse or negligible. Effects classified as moderate or major in scale are considered 'Significant.' Effects classified as minor or negligible in scale are considered 'Not Significant.'

8.9.4 Additional Baseline Information Required

8.9.4.1 Additional baseline information will be collected to inform the assessment of GHG effects, including:

- Surface access transport model for baseline year and future year do minimum baseline scenario's.
- Aviation traffic movement forecasts for the future year do minimum baseline scenario's.

8.9.5 Cumulative Effects

8.9.5.1 ISEP Guidance identifies that all global cumulative GHG sources are relevant to the effect on climate change. This is considered in defining the receptor as being of high sensitivity to further emissions.

8.9.5.2 For this reason, the guidance recommends that the effects of GHG emissions from specific cumulative projects should not be individually assessed, as there is no basis for selecting a particular cumulative project which emits GHG emissions over another. By its nature, the contextualisation of GHG emissions to the national carbon budgets incorporates cumulative contributions of other GHG sources,

which make up that context. Therefore, a separate cumulative assessment is not required for the GHG assessment, and it is instead accounted for within the contextualisation of emissions against national carbon budgets.

8.9.6 In-Combination Effects

8.9.6.1 There are no anticipated in-combination effects resulting from the Proposed Development in relation to GHGs, as no other ES topic chapter assesses the global atmosphere as a sensitive receptor. Given that there are no common receptors between the GHG assessment and other ES topics, in-combination effects in relation to GHG emissions are proposed to be scoped out of the assessment in the ES.

8.9.7 Limitations and Assumptions

8.9.7.1 There are inherent assumptions and limitations within GHG assessments. Industry guidance and carbon factor data will be utilised to enable the best estimate of GHG emissions for the Proposed Development. The assessment will depend on the quality of the Proposed Development activity data available at the time of the assessment, which will require assumptions to be made due to the parameter-based approach of the assessment. This approach will involve the consideration of defined parameter limits, which the Proposed Development will sit within. Any assumptions will be made to generally reflect a cautious 'worst-case' scenario and will be set out in the ES.

8.9.7.2 The Proposed Development is assumed to have a minimum design life of 60 years for the purpose of the EIA, although the Proposed Development is anticipated to form a permanent part of Heathrow Airport infrastructure and operations and as such no specific year for end of life has been established.

8.9.7.3 As set out in **Section 8.9.1.9** and in accordance with the draft HENPS, the potential climate effects associated with non-CO_2 emissions will be assessed qualitatively, due to the uncertainty regarding the magnitude of aviation's non-CO_2 impacts on climate and as there is no well-established methodology for quantifying non-CO_2 emission impacts.

8.9.7.4 **Sections 8.9.1.11** to **8.9.1.13** outline how the Proposed Development's emissions will be contextualised against the UK Carbon Budgets (see **Section 8.9.3** for further information on contextualisation) and when doing so, only emissions that fall within the scope of the UK Carbon Budgets will be used. As such, contextualisation will exclude international inbound flights. This approach also aligns with the draft HENPS.

8.9.7.5 **Table 8-10**Table 8-10 sets out data sources that provide a trajectory for key assumptions that will inform the future baseline scenario. These include aspects that rely on factors that will occur regardless of the Proposed Development, for example, those affected by UK Government policy and legislation. These trajectories provide a reasonable and evidence-based representation of how

emissions may evolve over time; however, there are inherent uncertainties associated with them, particularly over longer assessment periods. The delivery of future emission reductions is dependent on a range of assumptions relating to policy implementation, technological development, market uptake, fuel availability, operational efficiencies and wider economic conditions. In the case of the SAF Mandate, future emissions reductions are dependent on assumptions regarding the availability of sustainable feedstocks, the development of SAF production capacity and the deployment of emerging fuel technologies. The UK Government acknowledge this uncertainty, and the SAF Mandate maintains an obligated 22% of total UK jet fuel demand for 2040 and beyond until there is greater certainty around SAF supply.

8.10 Proposed Approach to Mitigation

8.10.1.1 The assessment of effects will account for primary and tertiary mitigation measures. Following this, any requirements for secondary mitigation will be identified and residual effects will be clearly reported.

Primary Mitigation

8.10.1.2 ISEP's GHG Management Hierarchy[69] recommends that GHG emissions are best mitigated by applying the following hierarchy:

- Eliminate: cease emission generating activity. Evaluate the basic need for the proposed project and explore alternative approaches to achieve the desired outcome/s.
- Reduce: achieve absolute reductions in GHG emissions. Efficiency in operations and processes, energy, waste and fleet management. Build less and re-use or refurbish existing assets.
- Substitute: reduce GHG emissions intensity of energy use and of energy purchased. Adopt renewables and lower carbon materials and technologies.
- Remove: prioritise eliminate, reduce, substitute within the value chain. Adopt off-site or on-site means to offset and/or sequester GHG emissions, prioritising removal opportunities within organisational control with low risk of reversal.

8.10.1.3 The above hierarchy will be applied to the Proposed Development to identify appropriate mitigation to reduce GHG emissions, wherever possible. The majority of these measures are anticipated to be embedded into the design of the Proposed Development as primary mitigation measures. These will be set out in the ES.

8.10.1.4 A Carbon Management Plan will be undertaken alongside the development of the design for the Proposed Development and will be submitted with the ES. The Carbon Management Plan will follow PAS2080 principles by setting out how carbon will be managed across the project lifecycle, including governance,

[69] Institute of Sustainability and Environmental Professionals, ISEP. GHG Management Hierarchy. 2026. Available at: https://www.isepglobal.org/learn/greenhouse-gas-management-hierarchy/ (Accessed: 29/09/2026)

responsibilities, carbon reduction objectives, assessment boundaries, design-stage mitigation, monitoring and reporting. It will demonstrate how opportunities to avoid, reduce and substitute emissions have been considered and embedded where practicable.

8.10.1.5 The design, construction and operation of the Proposed Development will be developed in accordance with the applicable draft HENPS requirements, including the mitigation measures it sets out for air travel, ground movements and airport operations, surface access and construction. These measures will be reviewed through the carbon management process and set out in the ES. These measures may be a combination of primary, tertiary and secondary mitigation.

8.10.1.6 A Circular Economy Statement will be prepared and included as an appendix to the Materials and Waste ES Chapter, setting out how appropriate measures for the securing of circularity principles throughout the lifecycle of the project will be secured. The Circular Economy Statement will identify how potential wastes will be designed out of the construction and operation processes. In addition, a Resource Management Plan will be prepared and included as an appendix to the Materials and Waste ES Chapter, setting out how appropriate measures for sustainable resource and waste management will be secured. These two documents will help to reduce GHG emissions arising from the transport and processing of waste. Further information is provided in **Chapter 18: Materials and Waste**.

Secondary Mitigation

8.10.1.7 Secondary mitigation measures are typically identified where the initial assessment (inclusive of Primary and Tertiary Mitigation) concludes there will be a likely significant effect and therefore additional mitigation measures are required. If secondary mitigation measures are required, these will be set out in the ES.

8.10.2 Tertiary Mitigation

8.10.2.1 The production of a Construction Environmental Management Plan (CEMP), in accordance with the Outline Construction Environmental Management Plan (oCEMP) to be submitted with the DCO Application, will help minimise environmental effects by including measures such as limiting construction traffic, reducing engine idling and management of resources.

8.10.2.2 An Operational Management Plan (OMP), to be submitted with the DCO Application, will identify how the operating of the terminal after construction and will include management measures that will help to minimise environmental effects.

8.10.2.3 Other tertiary mitigation will include adherence to design standards that will be a requirement of the Proposed Development. The Proposed Development will, as a minimum, be in line with the latest Building Regulations Part L 2026, commonly known as Future Buildings Standard for non-residential buildings. This regulation ensures low-carbon heating systems are used, in addition to good fabric and

efficiency of buildings, lowering energy demand and subsequent carbon emissions. Further information will be set out in the ES on standards of relevance to GHGs for the Proposed Development.

8.10.2.4 Measures set out by other disciplines that are of relevance to the GHG assessment will also be considered, such as those set out in **Chapter 21: Traffic and Transport and Chapter 6: Biodiversity**. These include an Outline Construction Traffic Management Plan (oCTMP) and an Outline Construction Workforce Travel Plan (oCWTP) which will be submitted with the DCO application.

8.11 Summary

8.11.1.1 A summary of the elements scoped in/out of the GHG Assessment is provided in **Table 8-16**.

Table 8-16: Elements scoped in/out of the GHG assessment

Discipline	Scoped In Elements	Scoped Out Elements
Greenhouse Gases	Construction Potential significant effects are anticipated from direct and indirect GHG emissions generated from, for example, the combustion of fossil fuels, emissions associated with electricity and embodied carbon. Operation Potential significant effects from direct and indirect emissions generated from emissions associated with both ground and air travel for passengers and staff, electricity and other utilities, and other site operations.	Decommissioning – assets with no specific end-of-life that would not otherwise be included in operational maintenance and replacement. Operation – downstream emissions where there is an insufficient causal link to the Proposed Development, the activities are not reasonably foreseeable, or there is no robust and proportionate method for quantification. This includes emissions associated with onward tourism activities, indirect and induced economic activity, and the construction and operation of any future replacement of displaced land uses not re-provided as part of the Proposed Development.

Environmental Impact Assessment Scoping Report

Chapter 9

Climate Change

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9 Climate Change

9.1 Introduction

9.1.1.1 This Chapter of the EIA Scoping Report has been prepared by Stantec UK Ltd and sets out the likely significant effects of climate change on the Proposed Development. The assessment will be presented within an Environmental Statement (ES).

9.1.1.2 Regulation 5(2)(c) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017[1] (the EIA Regulations) requires significant effects on climate to be considered, as appropriate, within the EIA process. In addition, Schedule 4[2] to the EIA Regulations requires likely significant effects resulting from "the impact of the project on climate…and the vulnerability of the project to climate change" to be addressed within an ES.

9.1.1.3 This chapter describes the methodology to be used for the Climate Change Risk Assessment (CCRA), the data that will inform the assessment and an overview of the baseline conditions, together with the potential significant effects to be considered within the assessment, and how the potential significant effects will be assessed. In-combination climate impacts (ICCI) are also covered within this chapter.

9.1.1.4 This chapter should be read in conjunction with **Chapter 6: Biodiversity; Chapter 8: Greenhouse Gases; Chapter 14: Health**; **Chapter**, **15: Landscape and Visual Amenity**; **Chapter 19: Major Accidents and Disasters**; **Chapter 21: Traffic and Transport** and **Chapter 22: Water Environment**.

9.2 Policy, Legislation and Guidance

9.2.1.1 This section identifies the relevant topic-specific policies that have informed the scope and, where relevant, the study area of the assessment. Further information on the policies relevant to the EIA and their status is set out in **Section 1.9,** which should be read in conjunction with this chapter.

[1] UK Government. Regulation 5(2)(c) of the Infrastructure Planning (Environmental Impact Assessment) Regulations. 2017. Available at: https://www.legislation.gov.uk/uksi/2017/572/regulation/5 (Accessed: 29/09/2026)
[2] UK Government. Schedule 4 of the Infra EIA Regs. 2017. Available at: https://www.legislation.gov.uk/uksi/2017/572/schedule/4 (Accessed: 29/09/2026)

Table 9-1: Policy relevant to the Climate Change assessment

Relevant Policy	Relevance to assessment
Policy – International	
United Nations Framework Convention on Climate Change (UNFCCC)[3] including the Kyoto Protocol 1997[4] and Paris Agreement 2015[5]	The UNFCCC was created in 1992 with the aim of tackling climate change through international negotiation and cooperation. Countries that sign the UNFCCC are referred to as 'Parties' and meet annually at the Conference of Parties (COP). This includes the UK, who are a signatory of the UNFCCC. The Kyoto Protocol was adopted in 1997 at the 3rd COP and, under Article 10 (b), requires Parties to '*formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change and measures to facilitate adequate adaptation to climate change*'. The Paris Agreement was agreed at COP21[6] and aims to strengthen the global response to climate change by ensuring all Parties increase their ability to adapt to climate change and enhance climate resilience. Article 7 of the Paris Agreement provides global goals on adaptation, which are: • To enhance adaptive capacity and resilience; and • To reduce vulnerability, with a view to contributing to sustainable development. The Agreement requires that all governing Parties engage in adaptation planning and implementation through measures such as national adaptation plans, vulnerability assessments, monitoring and evaluation. As a signatory to these agreements, the

[3] United Nations. United Nations Framework Convention on Climate Change. 1992. Available at: https://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf (Accessed: 29/09/2026)

[4] United Nations. Kyoto Protocol to the United Nations Framework Convention on Climate Change. 1997. Available at: https://treaties.un.org/doc/Treaties/1998/09/19980921%2004-41%20PM/Ch_XXVII_07_ap.pdf (Accessed: 29/09/2026)

[5] United Nations Treaty Collection. The Paris Agreement. 2015. Available at: https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-d&chapter=27&clang=_en (Accessed: 29/09/2026)

[6] United Nations. COP 21. 2015. https://unfccc.int/event/cop-21 (Accessed: 29/09/2026)

Relevant Policy	Relevance to assessment
	UK is obligated to engage in adaptation planning and implementation. The CCRA within the ES will therefore consider existing commitments and reporting the UK has undertaken to date.
Policy – National	
Airports National Policy Statement: New Runway Capacity and Infrastructure at Airports in the South East of England (2018)[7]	Designated in June 2018, the Airports National Policy Statement (ANPS) confirms Government support for the north-west runway at Heathrow and associated infrastructure, incorporating updates to reflect the Conservation of Habitats and Species Regulations 2017 and committing to major rail connectivity improvements (Crossrail, Western Rail Link, Southern Rail Access). The ANPS forms the primary national policy framework for the Proposed Development and will be reflected in the CCRA within the ES in relation to the requirements of paragraphs 4.45 to 4.49 of the ANPS.

[7] Department for Transport, DfT. Airports National Policy Statement: *new runway capacity and infrastructure at airports in the South East of England.* 2018. Available at: https://www.gov.uk/government/publications/airports-national-policy-statement (Accessed: 29/09/2026)

Relevant Policy	Relevance to assessment
Proposed draft revision to the Airports National Policy Statement To be known as the Heathrow Expansion National Policy Statement [8]	The draft Heathrow Expansion National Policy Statement (draft HENPS) sets out the proposed planning framework against which any future application for development consent for the Heathrow expansion should be considered. It reflects the Government's four tests for the expansion, which include: economic growth, climate change, air quality and noise. The draft HENPS provides guidance on assessing climate risk and adaptation relating to the Heathrow expansion. These include: • *'An accompanying Environmental Statement should include a climate change risk assessment, setting out how the proposal will take account of the projected impacts of climate change and embed adaptation measures, using guidance as necessary.* • *Detailed consideration must be given to the range of potential impacts of climate change using the latest UK Climate Projections available at the time, and to ensuring any Environmental Statement that is prepared identifies appropriate mitigation and adaptation measures; and* • *Where adaptation measures are necessary to deal with the impact of climate change, and that measure would have an adverse effect on other aspects of the project or the surrounding environment, the Secretary of State may consider requiring the applicant to ensure that the adaptation measure could be implemented should the need arise, rather than at the outset of the development.'*
National Networks National Policy Statement (2024)[9]	The National Networks National Policy Statement (NPS) provides the framework for delivering

[8] Department for Transport, DfT. Draft Heathrow Expansion National Policy Statement. 2026. Available at: https://www.gov.uk/government/publications/draft-heathrow-expansion-national-policy-statement (Accessed: 29/09/2026)

[9] Department for Transport, DfT. National Networks National Policy Statement. 2024. Available at: https://www.gov.uk/government/publications/national-networks-national-policy-statement (Accessed 29/09/2026)

Relevant Policy	Relevance to assessment
	Nationally Significant Infrastructure Projects (NSIP) on the national road, rail and aviation networks. The National Networks NPS outlines at paragraph 4.38 that '*In preparing measures to support climate change adaptation, applications should consider whether nature-based solutions could provide a basis for such adaptation.'* More generally, the policy outlines that the design of infrastructure projects should consider '*the estimated lifetime of the new infrastructure, with a high level of climate resilience built-in from the outset'* (paragraph 4.40). The requirements of the National Networks NPS in relation to climate change adaptation (paragraphs 4.33 to 4.44) will be addressed in the CCRA within the ES.
National Planning Policy Framework (2026)[10]	The latest National Planning Policy Framework (NPPF), published in August 2026, strengthens the approach to be taken to climate adaptation and resilience within planning. Policy CC3: Adaptation to Climate Change outlines that development proposals should outline the current and potential impacts of climate change over the lifetime of a scheme and, in order to minimise vulnerability to these impacts should, where relevant to the proposal: • *'Be located where the risk of flooding is minimised, or can be managed and the development made safe without increasing risk elsewhere …* • *Incorporate sustainable drainage systems to manage surface water flow rates and reduce volumes of runoff …* • *Use design approaches which minimise risks from overheating …;* and • *Incorporate proportionate measures to mitigate against wildfires, where*

[10] Ministry of Housing, Communities and Local Government. National Planning Policy Framework. 2026. Available at: https://assets.publishing.service.gov.uk/media/6a8334c03bd75b81e2329ac4/National_Planning_Policy_Framework.pdf (Accessed: 29/09/2026)

Relevant Policy	Relevance to assessment
	opportunities to do so exist and wildfires pose a particular risk'. Policy N2: Improving the natural environment sets out ways in which development proposals should use green infrastructure and nature-based solutions for climate change adaptation. An assessment of climate risk as it relates to the above climate hazards will be addressed in the CCRA within the ES. Whilst the NPPF does not form part of the statutory decision making framework for Nationally Significant Infrastructure Projects (NSIPs), the above policy can be considered an important and relevant matter.
Policy – Regional	
The London Plan (2021)[11]	Various policies within the London Plan are relevant to climate change, including: • Policy SI 4 (managing heat risk); • Policy SI 5 (water infrastructure); • Policy SI 12 (flood risk management); and • Policy GG6 (increasing efficiency and resilience)

[11] Mayor of London. The London Plan. 2021. Available at: https://www.london.gov.uk/programmes-strategies/planning/london-plan/london-plan-2021 (Accessed: 29/09/2026)

Relevant Policy	Relevance to assessment
Draft London Plan (2026)[12]	The draft London Plan is currently undergoing public consultation over the period of July 2026 to October 2026 and sets out good growth objectives including creating a greener, resilient and healthy city. As part of the good growth sub-objectives, the London Plan envisages the implementation of policy which will '*improve the resilience of people, buildings and places to climate change impacts.'* Examples of key policy relating to climate adaptation and resilience include: • GHR4 Heat risk; and • GHR5 Flood risk and drainage. The draft London Plan provides regional planning context for climate resilience and forms part of the planning context considered in the CCRA within the ES.
London Environment Strategy (2018)[13]	The London Environment Strategy outlines the Mayor's ambition for 'London and Londoners' to be resilient to severe weather and longer-term climate change impacts. This includes flooding, heat risk and drought. This strategy provides regional planning context for climate resilience and forms part of the planning context considered in the CCRA within the ES.
West London Strategic Infrastructure Delivery Plan 2021-40 (2022)[14]	Climate resilience and adaptation considerations are embedded throughout the West London Strategic Infrastructure Delivery Plan and are key considerations for accommodating future growth across West London including projects such as Heathrow Airport Expansion, Heathrow / Elizabeth Line west and Heathrow Airport's Southern and Western Rail Access points.

[12] Mayor of London. Draft London Plan. 2026. The Spatial Development Strategy for Greater London. Available here: https://www.london.gov.uk/sites/default/files/2026-07/Draft%20London%20Plan%202026%20web%20version.pdf (Accessed: 29/09/2026)

[13] Mayor of London. London Environment Strategy. 2018. Available at: https://www.london.gov.uk/programmes-and-strategies/environment-and-climate-change/london-environment-strategy (Accessed: 29/09/2026)

[14] Atkins and Cushman & Wakefield. West London Strategic Infrastructure Delivery Plan 2021-40. 2022. Available at: https://wla.london/wp-content/uploads/2022/03/WLA-Strategic-IDP-FINAL.pdf (Accessed: 29/09/2026)

Relevant Policy	Relevance to assessment
Policy – Local	
London Borough of Hillingdon (LBH) Local Plan Part 1: Strategic Policies (2012)[15], Part 2: Development Management Policies (2020)[16] and LBH Strategic Climate Action Plan 2025-2028 (2025)[17]	The LBH Local Plan Parts 1 and 2 outline policies such as Policy EM1: Climate Change Adaptation and Mitigation and Policy EM4: Open Space and Informal Recreation which require development to anticipate and respond to future climate risks through climate-resilient design, flood risk management, sustainable water use, green and blue infrastructure enhancement, biodiversity protection and measures that safeguard public health and wellbeing. The Strategic Climate Action Plan 2025-2028 further recognises increasing risks from heatwaves, flooding, drought and poor air quality, and promotes adaptation measures that increase the resilience of communities, infrastructure and natural systems.
Local Borough Planning Policy • London Borough of Hounslow[18,19] • London Borough of Ealing[20] • London Borough of Richmond Upon Thames Borough Council[21]	The climate change strategies and planning frameworks adopted by the relevant Local Planning Authorities seek to increase the resilience of new and existing development to the effects of climate change. Key adaptation priorities include improving resilience to flooding, overheating, water scarcity and extreme weather events through the incorporation of sustainable drainage systems, green infrastructure, urban greening, biodiversity enhancements and climate-responsive design.

[15] London Borough of Hillingdon. Local Plan Part 1. 2012. Available at: https://pre.hillingdon.gov.uk/planning-policy/local-plan-review (Accessed: 29/09/2026)
[16] London Borough of Hillingdon. Local Plan Part 2. 2020. Available at: https://pre.hillingdon.gov.uk/planning-policy/local-plan-review (Accessed: 29/09/2026)
[17] London Borough of Hillingdon. Strategic Climate Action Plan. 2021. Available at: https://www.hillingdon.gov.uk/media/7171/Strategic-climate-action-plan/pdf/Climate_strategy_adopted_July_2021_1.pdf?m=1632473850913 (Accessed: 29/09/2026)
[18] London Borough of Hounslow. Climate Emergency Action Plan 2026-2030. 2026. Available at: climate-emergency-action-plan-2026-2030 (Accessed: 11/09/2026)
[19] London Borough of Hounslow. Local Plan Review. 2024. Available at: https://www.hounslow.gov.uk/local-plan/local-plan-review/6 (Accessed: 29/09/2026)
[20] London Borough of Ealing. Ealing Council's Climate Adaptation and Resilience Strategy 2026-2028. 2026. Available at: Draft_Ealing_Council_Climate_Adaptation_and_Resilience_Plan.pdf (Accessed: 11/09/2026)
[21] London Borough of Richmond upon Thames. Adopted Local Plan. 2025. Available at: https://www.richmond.gov.uk/services/planning/planning_policy/local_plan/adopted_local_plan (Accessed: 29/09/2026)

Relevant Policy	Relevance to assessment
• Royal Borough of Windsor and Maidenhead[22] • Slough Borough Council[23] • Spelthorne Borough Council[24] • Buckinghamshire Council[25] • Runnymede Borough Council[26]	Relevant local planning policy will be considered as part of the CCRA within the ES to inform the identification and evaluation of climate risks associated with the Proposed Development.

Table 9-2: Legislation relevant to the Climate Change assessment

Relevant Legislation	Relevance to assessment
Legislation - National	
Climate Change Act 2008[27]	The Climate Change Act 2008 (CCA) established the context for government action on climate change, which sets out the requirement to prepare National Adaptation Programmes (NAP) that set out the actions that government and others will take to adapt to the challenges of climate change in the UK. The Third National Adaptation Programme (NAP3)[28] was published by the Department for Environment, Food and Rural Affairs (DEFRA) in July 2023 and presents the actions the government will take to adapt to the impacts of climate change

[22] Royal Borough of Windsor and Maidenhead. Environment and Climate Strategy 2026-2035. 2026. Available at: Environment and Climate Strategy 2026-2035 (Accessed: 11/09/2026)
[23] Slough Borough Council. Climate Change Strategy and Action Plan. 2021. Available at: PowerPoint Presentation (Accessed: 11/09/2026)
[24] Spelthorne Borough Council. Local Plan – March 2026. 2026. Available at: https://www.spelthorne.gov.uk/page/1383/local-plan-march-2026 (Accessed: 29/09/2026)
[25] Buckinghamshire Council. Draft Local Plan for Buckinghamshire 2045 (Regulation 19 Consultation). 2026. Available at: https://www.buckinghamshire.gov.uk/planning-building-and-environment/policy/buckinghamshire-local-plan/reg-19-consultation/ (Accessed: 29/09/2026)
[26] Runnymede Borough Council. Runnymede 2030 Local Plan. 2026. Available at: https://www.runnymede.gov.uk/planning-policy/runnymede-2030-local-plan (Accessed: 29/09/2026)
[27] UK Government. Climate Change Act. 2008. Available at: https://www.legislation.gov.uk/ukpga/2008/27/contents (Accessed: 29/09/2026)
[28] Department for Environment, Food & Rural Affairs. Third National Adaptation Programme (NAP3). 2024. Available at: https://www.gov.uk/government/publications/third-national-adaptation-programme-nap3 (Accessed: 29/09/2026).

Relevant Legislation	Relevance to assessment
	from 2023 to 2028. As the government's strategy to address the key risk and opportunities associated with climate adaptation, the following topics are identified: terrestrial and freshwater habitats, soil health, natural carbon stores, food supply, and human health. The programme is focused on three main themes: "action", "information" and "coordination" and states: "The UK Government's vision for adaptation is for a country that effectively plans for and is fully adapted to the changing climate, with resilience against each of the identified climate risks." The CCA 2008 requires the Government to prepare a five-yearly assessment of the risks for the UK of the current and predicted impacts of climate change. The latest UK Climate Change Risk Independent Assessment (CCRA4-IA)[29], published in May 2026, is the fourth iteration of this assessment and the third time that the Government has asked its independent advisers, the Climate Change Committee (CCC), to prepare the initial Independent Assessment. The CCRA4-IA includes a review of evidence which shows that current and future impacts from climate risks are, overall, higher than at the time of the previous climate risk assessment (CCRA3-IA)[30] in 2021. This includes accelerating changes in climate, evidence of potential increase in exposure and/or vulnerability, and a lack of adaptation progress in the UK. The CCRA4-IA provides an evidence base for identifying the climate-related risks and adaptation opportunities relevant to the Proposed Development and will inform the CCRA within the ES.
Environment Act 2021[31]	The Environment Act 2021 establishes the statutory framework for environmental governance, environmental targets, Environmental Improvement

[29] UK Climate Risk. The Fourth Independent Assessment of UK Climate Risk (CCRA4-IA). 2026. Available at: https://www.ukclimaterisk.org/publications/technical-report-ccra4-ia/ (Accessed: 29/09/2026)
[30] UK Climate Risk. The Third Independent Assessment of UK Climate Risk (CCRA3-IA). 2021. Available at: https://www.ukclimaterisk.org/publications/technical-report-ccra3-ia/ (Accessed: 29/09/2026)
[31] Legislation UK. Environment Act. 2021. Available at: https://www.legislation.gov.uk/ukpga/2021/30/contents (Accessed: 29/09/2026)

Relevant Legislation	Relevance to assessment
	Plans, Local Nature Recovery Strategies and biodiversity net gain in England. While the Act does not provide a standalone climate adaptation assessment methodology, it is relevant to the CCRA because nature recovery, habitat creation, green and blue infrastructure, water management and biodiversity net gain can contribute to climate resilience by helping to manage flood risk, urban heat, drought stress and ecological vulnerability.

Table 9-3: Guidance relevant to the Climate Change assessment

Relevant Guidance	Relevance to assessment
Guidance - National	
ISEP Environmental Impact Assessment Guide to: Climate Change Resilience & Adaptation (2020)[32]	This guidance provides a recommended approach to completing a CCRA for an EIA, including defining significance of effects for climate-related conclusions. This ES chapter will make use of the guidance in developing the CCRA methodology and completing the assessment.
DfT Climate Change Risk Assessment Guidance for the Transport Sector (2024)[33]	This guidance provides a recommended approach to completing a CCRA for the UK transport sector, including airports. The ES will make use of the guidance in developing the CCRA methodology and completing the assessment.

9.3 Stakeholder Engagement

9.3.1.1 **Table 9-4** sets out the relevant authorities and stakeholders likely to be consulted as part of the stakeholder engagement process. The list included below is not exhaustive.

[32] Institute of Sustainability and Environmental Professionals, ISEP. Environmental Impact Assessment Guide to: Climate Change Resilience & Adaptation. 2020. Available at: https://www.iema.net/media/mabhqino/iema-eia-climate-change-resilience-june-2020.pdf (Accessed: 29/09/2026)

[33] Department for Transport, DfT. Climate Risk Assessment Guidance for the Transport Sector. 2024. Available at: https://assets.publishing.service.gov.uk/media/67d94416975fce529e32f459/dft-climate-risk-assessment-guidance.pdf (Accessed: 29/09/2026)

Table 9-4: Engagement with Stakeholders

Consultee	Engagement Undertaken to Date	Proposed Future Engagement
Environment Agency	None undertaken to date	A consultation with relevant authorities and stakeholders will take place after Scoping to present the proposed approach to the assessment of the Proposed Development's likely significant effects in relation to GHGs. Further consultation will be expected to take place during the main assessment of the ES.
Heathrow Strategic Planning Group	None undertaken to date	
Natural England	None undertaken to date	
UK Health Security Agency	None undertaken to date	
London Borough of Hillingdon	None undertaken to date	
Other relevant LPAs	None undertaken to date	

9.4 Study Area

9.4.1 Study Area

9.4.1.1 The Study Area for the CCRA will be the Scoping Boundary. The Study Area will be refined throughout the development of the Proposed Development; ultimately comprising the land contained within the Order Limits defined in the DCO Application.

Climate Change Risk Assessment (CCRA)

9.4.1.2 The CCRA will consider both direct and indirect effects, such as risks from cascading impacts whereby climate hazards occurring beyond the Scoping Boundary could indirectly affect the Proposed Development through dependencies on external infrastructure, services, transport networks and supply chains. This includes infrastructure and buildings associated with existing Heathrow Airport operations. Whilst these wider impacts may extend beyond the Scoping Boundary, they are considered only insofar as they may affect the construction, operation or maintenance of the Proposed Development.

9.4.1.3 The assessment will take into account relevant receptors or baseline information defined by other environmental topics, such as emergency services identified

within the study area for **Chapter 14: Health** and the affected transport network as defined in **Chapter 21: Traffic and Transport.**

The UK Concentration Pathway 2018 (UKCP18) data provided by the UK Met Office will be utilised for the 25km and 12km grid cells within which the Scoping Boundary is located.

In-Combination Climate Change Impacts

9.4.1.4 Assessments of ICCI will be based on study areas identified for each discipline topic scoped into the ES, alongside the climate projections identified in **Table 9-6**. A summary table of each topic area's zones of influence is presented in **Chapter 24: Cumulative and In-Combination Effects**.

9.4.2 Temporal Scope

9.4.2.1 UKCP18 provides climate change projections up to 2100 in 30-year time slices. The following time slices will apply to the assessment within the ES:

- Current climate baseline conditions supported by observed climate data for 1981 – 2010 and recent climate trends, variations and extremes;
- Future climate baseline for 2010-2039 (2030s);
- Future climate baseline for 2040-2069 (2050s); and
- Future climate baseline for 2070-2099 (2080s).

9.5 Sources of Data used in Scoping

9.5.1 Baseline Sources

9.5.1.1 A series of desk-based studies have been undertaken to determine baseline conditions at the Scoping Boundary. The data sources used for these desk-based studies are set out in **Table 9-5** below.

Table 9-5: Data sources used for scoping

Source	Relevance to the assessment
Baseline Data Sources	
Met Office UK Climate Projection (UKCP) 2018 Data[34]	The Met Office UKCP18 data will be used to identify changes to the climate in the future and determine the climate change hazards and frequency of events which could happen at the Scoping Boundary up to 2100.

[34] Met Office. UK Climate Projects (UKCP18). 2019. Available at: https://www.metoffice.gov.uk/research/approach/collaboration/ukcp (Accessed: 29/09/2026)

Source	Relevance to the assessment
DEFRA Flood Maps for Planning[35]	Used to evaluate the existing flood risk at the Scoping Boundary.
Met Office Articles and Data including: • Past Weather Events[36] • National Severe Weather Warning Archive[37] • Heathrow location-specific long-term averages[38] • Summer 2026 provisionally hottest on record for the UK[39] • UK climate extremes[40]	Data sources used to support baseline data collection and determination of past extreme weather events which have impacted the Scoping Boundary.
Heathrow Climate Adaptation Report 2024[41]	In 2008 the Climate Change Adaptation introduced the Adaptation Reporting Power, which enables the Secretary of State to require certain organisations to report on their preparedness and resilience to climate change every 5 years. Heathrow Airport was directed to report during the first reporting round and participated voluntarily in the second. This resulted in the publication of Heathrow's Climate Change Adaptation Reporting Power Report, which identified the key climate-related risks to the airport's infrastructure and operations, and the Heathrow Climate Change Adaptation and Resilience Progress Report, which outlined

[35] Department for Environment, Food and Rural Affairs. Flood Map for Planning – Flood Zones. 2026. Available at: https://environment.data.gov.uk/dataset/04532375-a198-476e-985e-0579a0a11b47 (Accessed: 29/09/2026)
[36] Met Office. Past weather events. 2026. Available at: https://weather.metoffice.gov.uk/learn-about/past-uk-weather-events. (Accessed: 29/09/2026)
[37] Met Office. National Severe Weather Warnings Archive. 2026. Available at: https://www.metoffice.gov.uk/research/library-and-archive/publications/national-severe-weather-warning-service (Accessed: 29/09/2026)
[38] Met Office. Location-specific long-term averages. 2026. Available at: https://www.metoffice.gov.uk/research/climate/maps-and-data/location-specific-long-term-averages/gcpsveqyg (Accessed: 29/09/2026)
[39] Met Office. Summer 2026 provisionally hottest on record for the UK. 2026. Available at: https://www.metoffice.gov.uk/about-us/news-and-media/media-centre/weather-and-climate-news/2026/summer-2026-provisionally-hottest-on-record-for-the-uk (Accessed: 29/09/2026)
[40] Met Office. UK climate extremes. 2026. Available at: https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-climate-extremes (Accessed: 29/09/2026)
[41] Heathrow Airport. Climate Adaptation Report. 2024. Available at: https://www.heathrow.com/content/dam/heathrow/web/common/documents/company/heathrow-2-0-sustainability/reports/Heathrow-Climate-Adaptation-Report-(ARP4).pdf (Accessed: 29/09/2026)

Source	Relevance to the assessment
	progress in implementing resilience actions. Reporting is now in the Fourth Round (ARP4), with the most recent Climate Adaptation Report published in 2024. APR4 highlights the scale of Heathrow's services and sets an emphasis on the importance of the resilience of the airport's infrastructure and operational activities to climate change. APR4 identified that groundwater and surface water flooding are a priority risk; driven by both intense rainfall events and higher rainfall over extended durations across the catchment leading to elevated groundwater levels. Compound storm events are also identified as a priority risk. APR4 has been used to identify climate risks within this chapter and will continue to inform the mitigation for the Proposed Development in the ES. The report is used to identify recognised climate change physical risks at the existing wider Heathrow Site from the 4th Adaptation Reporting exercise.
Heathrow Climate Adaptation Strategy[42]	The Heathrow Climate Adaptation Strategy (HCAS) outlines Heathrow Airport Limited's (HAL) approach to climate change mitigation and adaptation. The strategy recognises the risk of climate change, including the integrated climate risks within Heathrow's Enterprise Risk Management Framework where climate change is considered the most substantial mid to long-term risk. The HCAS highlights Heathrow's priority climate risk as being flooding and rainfall. The HCAS also identified the airport's vulnerability to cascading risk which may exacerbate direct risks from hazards such as rainfall and heat. A weather event impacting on critical infrastructure supplying the airport could lead to substantial

[42] Heathrow Airport. Climate Adaptation Strategy. 2026. Available at: https://www.heathrow.com/content/dam/heathrow/web/common/documents/company/heathrow-2-0-sustainability/strategy/heathrow-climate-adaptation-strategy.pdf (Accessed: 29/09/2026)

Source	Relevance to the assessment
	disruption and even closure of the airport. The HCAS has informed the baseline and identification of climate risks within this chapter. The report has been used to identify previous extreme weather events that have impacted current Heathrow Airport operations.
State of the UK Climate Report 2025[43]	Presents the latest assessment of UK climate trends, variations and extremes based on the most up to date observations, used to inform the current baseline.
Met Office Annual Assessment 2025[44]	A summary of the weather experienced across the UK during 2025 and how it compares with the 1991 to 2020 average, used to inform the current baseline.
TM49 Design Summer Years for London. 2014[45]	The report by Chartered Institution of Building Services Engineers (CIBSE) used in the identifying Heathrow as an urban heat island.

9.6 Baseline conditions

9.6.1 Baseline Description

9.6.1.1 A desk-based study has been undertaken to establish the existing and future baseline context for the Scoping Boundary and surrounding area using the sources identified in **Table 9-5**.

UK Observations

9.6.1.2 Observed climate changes over the UK, from the desk-based study, include:

- The UK's climate has warmed at approximately 0.25°C per decade since the 1980s.

[43] Kendon, M. et al. State of the UK Climate in 2025. 2026. Available at: https://rmets.onlinelibrary.wiley.com/doi/10.1002/joc.70470 (Accessed: 29/09/2026)
[44] Met Office. Annual Assessment – 2025. 2026. Available at: https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/weather/learn-about/uk-past-events/summaries/annual_assessment_2025.pdf (Accessed: 29/09/2026)
[45] Chartered Institution of Building Services Engineers (CIBSE). TM49 Design Summer Years for London. 2014. Available at: https://www.cibse.org/knowledge-research/knowledge-portal/technical-memorandum-49-design-summer-years-for-london-2014-pdf (Accessed: 29/09/2026).

- The most recent decade (2016-2025) has been on average 0.51°C warmer than the 1991-2020 average and 1.33°C warmer than 1961-1990.
- All the UK's top ten warmest years, in a series from 1884, have occurred since 2000; the most recent four years (2022 – 2025) are all in the top five warmest years.
- 2025 included the following records:
  - UKs warmest spring and summer with the six months, March to August, all in the top ten warmest of their respective monthly series;
  - Warmest year overall for the UK in a series from 1884;
  - Sunniest year on record for the UK in a series from 1910;
  - England had its driest spring for over 130 years with many areas in southern and central England in drought conditions during spring and summer;
  - Storm Éowyn was the UK's most powerful wind storm for over a decade, hitting the UK in late January 2025; and
  - The UK experienced the highest burned area and number of wildfires on record in a series from 2006.
- The highest daily minimum temperature on record was recorded during the July 2022 heatwave of 26.8°C.
- The highest daily maximum temperature on record was recorded during the July 2022 heatwave, with a temperature of 40.3°C.
- The warmest UK summer on record is provisionally set to be 2026, with the summer mean temperature recorded at 16.5°C, beating the 2025 summer mean temperature of 16.1°C.
- Since the 1960s, there has been an increase in annual average rainfall over the UK. However, natural variations are also accounted for in the longer observational record.
- The most recent decade (2016-2025) has seen no change to total annual rainfall compared to 1991-2020 but has increased by 8% compared to 1961-1990.
- The winter half-year (October to March) for the most recent decade (2016–2025) has been 3% wetter than 1991–2020, and 13% wetter than 1961–1990, with little change for the summer half-year.
- The spatial frequency of very wet months in the winter half-year (October to March) with twice the 1961–1990 average rainfall has approximately doubled from 1961–1990 to 2016–2025.
- Since 1901, the sea level around the UK has risen by about 20.1 cm, with two-thirds of this rise happening over the last three decades.
- There have been fewer occurrences of maximum gust speeds exceeding 40/50/60 knots for the latest two decades compared to the 1980s and 1990s. The UK annual mean wind speed from 1969 to 2024 shows a downtrend, consistent with global observations.
- Widespread and substantial snow events have occurred in 2021, 2018, 2013, 2010 and 2009, but their frequency and severity have generally declined since the 1960s.

Local and Regional Observations

9.6.1.3 Historical climate averages during the period 1981 - 2010 for the closest climate stations to the Scoping Boundary (Heathrow, located adjacent to the Scoping Boundary), obtained from the Met Office website are provided in below **Table 9-6**.

Table 9-6: Historic Climate at Heathrow Meteorological Stations for the Period 1981 – 2010

Climate Variable	Heathrow	UK Average
Average annual maximum temperature (ºC)	14.46	11.87
Warmest month on average and mean maximum temperature (ºC)	July, 22.46	July, 18.63
Coldest month on average and mean minimum temperature (ºC)	January, 1.43	February, 0.16
Average total annual rainfall (mm/yr)	596.58	1084.06
Wettest month on average and average monthly rainfall (mm)	October, 57.79	December, 114.23
Driest month on average and average monthly rainfall (mm)	February, 34.52	April, 65.97
Annual Days of rainfall ≥ 1 mm (days)	106.62	154.00
Mean annual wind Speed at 10 m (knots)	7.31 (1991-2020 only)	9.27 (1991-2020 only)
Annual days of air frost	40.53	64.50

9.6.1.4 **Table 9-6** shows that the Scoping Boundary experiences warmer than UK average temperatures and receives much less rainfall than the UK average per year.

9.6.1.5 The Scoping Boundary is located within Greater London which has the highest mean daily maximum temperatures in the UK. The number of days over 30°C and nights over 18°C has more than quadrupled for Greater London for the most recent decade, 2016–2025, compared to 1961–1990. In most urban centres, where there is a dense build-up of hardstanding ground and buildings, combined with a lack of green space, this can lead to temperature extremes in the summer compared to local rural locations and results in an urban heat island effect. Greater London typically experiences more intense and frequent heatwaves, which is worsened by this urban heat island effect. The Chartered Institution of Building Services Engineers (CIBSE) observations for design weather data file for London Heathrow indicate that this location is a peri-urban location. However, daily temperate data demonstrates that it is warmer than surrounding areas,

suggesting that the location acts more similarly to an 'intermediate urban heat island' site. Therefore, it is likely that the urban heat island effect impacts the climate characteristics of the Scoping Boundary.

9.6.1.6 The Scoping Boundary comprises areas designated as Flood Zone 2 'Medium Probability' and Flood Zone 3 'High Probability from fluvial flood, risk as well as localised areas of surface water flood risk. Further information is set out in **Chapter 22 Water Environment**.

9.6.1.7 The region of London and South East England has been subject to a number of severe weather warnings, including (but not limited to):

- Red warning of extreme heat issued in June 2026 and July 2022;
- Red warning of wind issued in February 2022 during Storm Eunice;
- Red warning of snow issued in January 2013;
- Amber warnings for extreme heat issued in June 2026 and July 2022.

9.6.1.8 The Heathrow Climate Adaptation Strategy sets out three severe weather events that led to disruption at the airport between 2021 and 2025. These included:

- High Winds, February 2022: Recorded hourly mean wind speed of 19m/s (43mph) and peak gusts of 31m/s (69mph) during Storm Eunice. The airport experienced extensive disruption across multiple asset types. There were 131 flights cancelled and 367 flights delayed by more than 30 minutes.
- Extreme Heat, July 2022: Temperatures reached 40.2°C, placing a strain on airport assets.
- Extreme Rainfall, June 2023: 25mm of rain fell in two hours leading to widespread surface water accumulation, exacerbated by high groundwater levels. Reduced headroom in the drainage network meant it was unable to convey water away as effectively.

9.6.2 Future Baseline

9.6.2.1 Future climate projections suggest that the UK and the London and South East of England region can be expected to experience hotter, drier summers and warmer, wetter winters with increasing frequency and intensity of extreme weather. This may be enhanced by the impact of the urban heat island effect at the Scoping Boundary. Further information on the climate projections that will be used to establish the future baseline is provided in **Section 9.9.2**.

9.6.2.2 Fluvial and surface water flood risk is anticipated to become more extensive in locations such as the Horton Brook, Hithermoor Stream, Stanwell Moor Ditch, Holme Lodge Ditch and the section of the River Colne. Further information is set out in **Chapter 22: Water Environment**.

9.7 Likely Significant Effects Requiring Assessment

9.7.1 Construction

9.7.1.1 The duration of the construction phase for the Proposed Development is expected to be short to medium-term. The construction phase may be vulnerable to climate hazards including, but not limited to:

- Primary Hazards:
  - Drought;
  - Heatwaves;
  - Extreme precipitation;
  - Flooding;
  - Extreme low temperatures and cold snaps; and
  - Storms (high winds).
- Secondary Hazards:
  - Lightning;
  - Fog;
  - Wildfires; and
  - Ground stability and subsidence.

9.7.1.2 The main sensitive receptors during the construction phase are considered to be, but may not be limited to:

- Construction workers;
- Temporary construction buildings and equipment;
- Construction access infrastructure;
- Existing green and blue infrastructure.

9.7.1.3 Some receptors will be more susceptible to climate change than others depending on a range of factors. These climate hazards when considered against the sensitive receptors have the potential to cause potential significant effects and are therefore proposed to be scoped into the ES.

9.7.2 Operation

9.7.2.1 During operation, the Proposed Development may be vulnerable to a range of medium and long-term primary and secondary climate hazards, including but not limited to:

- Primary Hazards:
  - Drought;
  - Heatwaves;
  - Extreme precipitation;
  - Flooding;
  - Extreme low temperatures and cold snaps; and

  - Storms (high winds).
- Secondary Hazards:
  - Lightning;
  - Fog;
  - Wildfires; and
  - Ground stability and subsidence.

9.7.2.2 The main sensitive receptors and/or receptor groups during the operational phase are considered to be, but may not be limited to:

- Aircraft and airside operations;
- Infrastructure;
- Buildings;
- Structures;
- The runway;
- Surface access;
- Drainage;
- Utilities and telecommunications;
- Passengers and airport staff; and
- Green and blue infrastructure.

9.7.2.3 Some receptors will be more susceptible to climate change than others depending on a range of factors. These climate effects when considered against the sensitive receptors have the potential to be significant and are therefore proposed to be scoped into the ES.

9.7.3 Decommissioning

9.7.3.1 As noted in **Section 9.4.2**, the climate hazards will be assessed through to the 2080's time horizon, representing the furthest future period for which UKCP18 data is currently available. The Proposed Development is assumed to have a minimum design life of 60 years for the purpose of the EIA, although the Proposed Development is anticipated to form a permanent part of Heathrow Airport infrastructure and operations and as such no specific year for end of life has been established. It is therefore assumed that any decommissioning would occur after 2099 and fall outside the temporal coverage of the available climate datasets. Consequently, it would not be possible to undertake a proportionate, evidence-based assessment of future climate risks for a decommissioning phase occurring after 2099.

9.7.3.2 Individual assets, such as electrical, mechanical and communications equipment, may have shorter design lives and will be replaced or refurbished during the operational life of the Proposed Development. Such activities are considered routine operation, maintenance and asset renewal. The primary infrastructure is expected to remain in place throughout the operational life of the Proposed Development and, therefore, no separate decommissioning phase is anticipated within the assessment period.

9.7.3.3 As such, decommissioning effects are proposed to be scoped out of the assessment.

9.7.4 In-combination Climate Impacts

9.7.4.1 There is the potential for ICCIs to be identified in other topics scoped into the ES when considered against future climate change conditions. For example, if the assessment of the likely significant effects on biodiversity identifies an effect on a habitat or species receptor due to the Proposed Development, such as loss of habitat, and in addition, projected future higher temperatures will increase the vulnerability of this habitat to fragmentation, this would be an ICCI. ICCIs will be assessed within each topic chapter scoped into the ES and include a high-level qualitative assessment of whether climate change may alter:

- The sensitivity/ vulnerability of identified receptors;
- The anticipated magnitude of effects; and/or
- A potential change in significance following any change identified by either of the above two points, utilising the significance matrix relevant to the topic chapter.

Table 9-7: Likely significant Climate Change effects

Activity	Effect	Receptor
Construction		
Construction of the Proposed Development	Climate change (climate hazards including seasonal patterns and extreme weather detailed in **9.7.1**) leading to unsafe conditions at the Scoping Boundary.	Construction workers
	Climate change (climate hazards and extreme weather detailed in **9.7.1**) exacerbating performance of construction equipment and processes, as well as delays to construction programme.	Temporary construction buildings and compounds, equipment, electricity network, Site access, soils, materials and stockpiles, drainage.
Operation		
Aircraft movements on the new runway and taxiways.	Climate change (climate hazards including seasonal patterns and extreme weather detailed in **9.7.2**) creating hazardous conditions affecting aircraft operations.	Aircraft and airside operations

Activity	Effect	Receptor
New buildings, infrastructure, roads, incl. junction improvement and rail.	Climate change (climate hazards including seasonal patterns and extreme weather detailed in **9.7.2**) affecting the function and operation of the airport.	Infrastructure, buildings, structures, runway, surface access, drainage, utilities and telecommunications
Passengers/staff using new airport facilities and travelling to/from Site.	Climate change (climate hazards including seasonal patterns and extreme weather detailed in **9.7.2**) affecting safety and comfort of passengers and staff.	Passengers and airport staff
New planting	Climate change (climate hazards including seasonal patterns and extreme weather detailed in **9.7.2**) affecting the function of habitats and proposed planting.	Proposed green and blue infrastructure
Decommissioning		
N/A		
In combination climate Impacts		
Construction and operation of the Proposed Development	Climate change (climate hazards including seasonal patterns and extreme weather detailed in **9.7.2**) exacerbating environmental impacts.	Receptors identified by other topics scoped into the ES.

9.8 Effects Not Requiring Assessment

9.8.1.1 Potential effects to be scoped out of the CCRA are summarised in **Table 9-8** below.

Table 9-8: Potential effects to be scoped out of the CCRA

Activity	Effect	Receptor	Justification for scoping out
Decommissioning of the Proposed Development	Climate change (climate hazards including seasonal patterns and extreme weather) leading to unsafe conditions at the Scoping Boundary.	Onsite staff	Assets with shorter design lives are considered routine maintenance and replacement, occurring and assessed within the operational phase of the Proposed Development. Longer term assets with no specific decommissioning timeframe would occur beyond the timeframe for which there is no available climate projection data (i.e. after 2099).
Construction and Operation of the Proposed Development	Cumulative or inter-project climate vulnerability and resilience effects between the Proposed Development and other approved/existing developments in the surrounding area.	N/A	Climate change risks are assessed with reference to future projected climate conditions that will affect the Proposed Development over its lifetime, including consideration of dependencies on surrounding infrastructure, services and environmental systems where relevant. The assessment therefore focuses on how the Proposed Development may be affected by future climate hazards, rather than on the combined effects of the Proposed Development and other developments acting on a shared receptor. The scope of this CCRA does not include the assessment of the capacity and capability of the existing and future UK or London utility infrastructure alongside other existing/approved

Activity	Effect	Receptor	Justification for scoping out
			development. As such, no significant cumulative climate change effects are anticipated to arise.

9.9 Proposed Approach to Assessment

9.9.1 Overview

9.9.1.1 The approach for the CCRA has been developed in line with guidance from the *Environmental Impact Assessment Guide to: Climate Change Resilience & Adaptation* (2020), published by ISEP (formerly known as IEMA) and the *Climate Risk Assessment Guidance for the Transport Sector* published by DfT. The approach for the CCRA is set out in **Figure 9-1**.

9.9.1.2 As noted in **Section 9.7.4**, ICCIs will be assessed within each topic chapter scoped into the ES. These assessments will use the approach, methodology and significance criteria used by those topics alongside the climate baseline data used within the CCRA.

9.9.1.3 Hazards associated with flooding will be assessed in detail within **Chapter 22: Water Environment** and standalone flood risk assessments. The CCRA within the ES will use future climate projections to identify how those hazards may evolve over the lifetime of the Proposed Development.

9.9.2 Defining the Baseline and Future Baseline

9.9.2.1 The current baseline is determined by collating observed and historical data for the Scoping Boundary, using the sources as defined in **Table 9-5**, to understand and identify the climate hazards occurring.

9.9.2.2 The Met Office 2018 UK Climate Projections (UKCP18) is the main source of information that will be used to inform the future baseline and to identify climate hazards relevant to the Proposed Development.

9.9.2.3 UKCP18 uses observations of weather and climate combined with climate models to create a range of climate projections for different emissions scenarios. UKCP18 builds upon previous projections to provide information on how the climate of the UK may change over the rest of this century, describing how climatic conditions, long term seasonal averages and extreme weather conditions may change over future decades. The baseline data will be complemented by a literature review of relevant publications, such as those set out in Table 9-5.

9.9.2.4 UKCP18 uses Representative Concentration Pathways (RCPs) to develop projections and consider factors such as economic activity, population growth and land use change. The RCPs specify concentrations of greenhouse gases that will result in total radiative forcing increasing by a target amount by the year 2100 relative to pre-industrial levels which then have a resultant change in global mean temperatures.

9.9.2.5 RCP8.5 represents the highest-impact scenario where GHGs continue to grow unmitigated, leading to a best estimate global average temperature rise of 4.3°C by 2100. To avoid underestimating future climatic risks, ISEP CCRA guidance recommends the use of the RCP 8.5 scenario, and this has been selected as the most appropriate scenario to be taken forward in the CCRA.

9.9.2.6 The following data sets from UKCP18 will be utilised within the CCRA in determining the future baseline and climate hazard identification:

- Observational data from HadUK-Grid up to 2024;
- Probabilistic projections (25km) up to 2100;
- Probabilistic projects of climate extremes (25km) up to 2100; and
- Regional projections (12km) up to 2081.

9.9.2.7 The variables sourced from within the above data sets will be used to determine current and future baseline:

- Seasonal winter averages, including mean temperature, mean daily minimum temperature, mean precipitation rate and humidity.
- Seasonal summer averages, including mean temperature, mean daily maximum temperature, mean precipitation rate and humidity.
- Extreme climate projection data including daily maximum air temperature, 1 and 5 day maximum precipitation and driest 1 and 5 day maximum precipitation.

9.9.2.8 UKCP18 data is expressed in a range of percentiles which represent the uncertainty range for the intensity of an event expected once within the given return period. In accordance with the ANPS, the 10th, 50th and 90th percentiles will be applied. For identifying extremes, data from the 5th and 95th percentiles will also be reviewed to represent the uncertainty range for the maximum and lowest maximum intensity of a climate hazard.

9.9.3 Identifying and Determining Sensitivity of Receptors

9.9.3.1 Receptors that may be affected by climate change will be identified with consideration of both extreme weather events and gradual climatic changes in the study area for the Proposed Development.

9.9.3.2 In accordance with ISEP CCRA guidance, ascribing the sensitivity of receptors in relation to potential climate change effects should take into account the susceptibility of the receptor (e.g. ability to be affected by a change) and the vulnerability of the receptor (e.g. potential exposure to a change). These are defined in ISEP CCRA guidance (2020) and set out in **Table 9-9** below.

Table 9-9: Susceptibility and Vulnerability of Receptor

Susceptibility/ Vulnerability	Description
High	• Receptor has no ability to withstand/not be substantially altered by the projected changes to the existing/prevailing climatic factors (e.g. lose much of its original function and form). • Receptor is directly dependent on existing/prevailing climatic factors and reliant on these specific existing climate conditions continuing in future (e.g. river flows and groundwater level) or only able to tolerate a very limited variation in climate conditions.
Moderate	• Receptor has some limited ability to withstand/not be altered by the projected changes to the existing/prevailing climatic conditions (e.g. retain elements of its original function and form). • Receptor is dependent on some climatic factors but able to tolerate a range of conditions (e.g. a species which has a wide geographic range across the entire UK but is not found in southern Spain).
Low	• Receptor has the ability to withstand/not be altered much by the projected changes to the existing/prevailing climatic factors (e.g. retain much of its original function and form). • Climatic factors have little influence on the receptors.

9.9.3.3 The sensitivity of the receptor is incorporated into the assessment as one of the factors in determining the consequence of impact.

9.9.4 Climate Change Risk Assessment

9.9.4.1 Following the identification of climate hazards and receptors, climate change impacts can be determined. When considered in tandem, the likelihood and consequence of the identified climate impacts indicate to the overall climate risk at the Scoping Boundary as a result of climate change:

- **Likelihood of Impact** = How frequently the impact of the climate change hazard will affect the identified receptor(s).
- **Consequence of Impact** = The extent to which the receptor will be affected when the climate change impact occurs. This is a multifaceted indicator; the sensitivity of the receptor is a key consideration when determining the consequence, in addition to reputational impact, Proposed Development performance, cost of damage and any health and safety (H&S) implications.

Likelihood of Impact

9.9.4.2 Determining the likelihood of impact is measured by the probability and frequency of occurrence of the climate change impact on the receptor, accounting for exposure, based on the definitions in **Table 9-10**. These definitions have been informed by DfT and ISEP CCRA guidance.

Table 9-10: Likelihood of Climate Impact

Likelihood Category	Description
Very High	The impact is expected to occur frequently to the receptor during the Proposed Developments lifetime* (e.g. every year)
High	The impact is expected to occur several times to the receptor during the Proposed Developments lifetime* (e.g. every 5 years)
Medium	The impact is expected to occur limited times to the receptor during the Proposed Developments lifetime* (e.g. every 10 years).
Low	The impact is expected to occur infrequently to the receptor during the Proposed Developments lifetime* (e.g. every 30 years)
Very Low	The impact is not expected to occur to the receptor during the Proposed Developments lifetime.

*60 years is the assumed lifetime for the Proposed Development to align with other assessments within the EIA.

Consequence to Receptor

9.9.4.3 The consequence of a climate impact is based upon the extent and ability of a receptor to adapt, tolerate and recover from physical or chemical change. The consequence of impact can be both direct and indirect. It is based upon 5 different factors, which are described below (in no particular order):

- **Sensitivity of Receptor**: The sensitivity of the receptor, as defined within the ISEP guidance, determined by the susceptibility and vulnerability. See Table 9-9 for determining sensitivity.
- **Reputation**: Extent of impact on stakeholders, media interest and customer reviews and complaints.
- **Performance**: Scale of repair required and subsequent impact this has on the operation and delivery of services at the Scoping Boundary.
- **Cost of damage**: Financial damage or loss caused as a result of the climate impact.
- **Health and Safety**: Extent of injuries or fatalities.

9.9.4.4 Together, these factors lead to determining the value and importance of the receptor; those receptors which have higher consequences associated with them indicate that the receptor is likely of high value and/or importance to the Scoping Boundary, and therefore this aspect is considered qualitatively within the assessment of consequence.

9.9.4.5 It is unlikely that the levels of impact for each of the contributing factors listed above will equate to the same level of consequence, or that all contributing factors will be relevant to every receptor. Therefore, it is reliant on professional

judgement, as a competent expert, when evaluating the factors together to determine the most appropriate overall consequence of impact score. The consequence of impact is defined as set out in Table 9-11. Descriptions of the contributing factors are included for each consequence, listed in no particular order. The definitions have been adapted from the indicative examples of consequence within DfT and ISEP CCRA guidance.

Table 9-11: Consequence to Receptor

Consequence	Overall Description and Examples of Contributing Factors					
Very Large	The receptor has no adaptability, tolerance or recoverability to the climate impact and the consequence of this would lead to very severe damage to some or all the below factors:					
	Receptor Sensitivity	Reputation	Performance	Environment	Cost of Damage	Health and Safety
	High	International media interest, extensive public complaints and negative stakeholder response	Substantial impact resulting in closure of services	Serious and permanent widespread impact	Very high cost of repair and/ or financial loss	Fatalities or serious life changing injuries
Large	The receptor has limited adaptability, tolerance or recoverability to the climate impact and the consequence would lead to severe damage to some or all the below factors:					
	Receptor Sensitivity	Reputation	Performance	Environment	Cost of Damage	Health and Safety
	High / Medium	Extensive UK media interest, many public complaints and negative stakeholder response.	Widespread impact resulting in a partial closure to services	Incident resulting in damage or loss of environment requiring substantial remediation	High cost of repair and/ or financial loss	Multiple injuries requiring hospital treatment
Medium	The receptor has a degree of adaptability, tolerance or recoverability to the climate impact and the consequence would lead to some damage to some or all the below factors:					
	Receptor Sensitivity	Reputation	Performance	Environment	Cost of Damage	Health and Safety
	Medium	Wide regional or national media interest, numerous customer complaints and some concern from stakeholders	Notable disruption reducing the efficiency of services	Incident resulting in damage to and loss of environment requiring some remediation	Medium cost of repair and/ or financial loss	Discomfort and minor illness which may result in hospital treatment
Limited	The receptor has a moderate capacity to adapt, tolerate or recover from the climate impact and the consequence leave minimal damage to some or all the below factors:					
	Receptor Sensitivity	Reputation	Performance	Environment	Cost of Damage	Health and Safety

Consequence	Overall Description and Examples of Contributing Factors					
	Medium/ Low	Some local / regional media interest, some customer complaints and some concern from stakeholders	Limited impact which may cause small disruptions to services	Localised impact on the environment addressed by existing management strategies	Low cost of repair and/ or financial loss	Inconvenience and minor illness, with on-site first aid.
Negligible	The receptor is generally tolerant of and can accommodate physical changes and the consequence would lead to little or no damage to some or all the below factors:					
	Receptor Sensitivity	Reputation	Performance	Environment	Cost of Damage	Health and Safety
	Low	Internal issue with minimal local media coverage, very few customer complaints	Little impact with no disruption to service	Little to no impact which can be addressed by existing management strategies	Little to no cost of repair and/ or financial loss	Little to no health or safety impact, with minor first aid.
Beneficial	Where the consequence of the physical change has a positive impact on the receptor, leading to positive reputation impact and/or beneficial environmental impact.					

Climate Risk Matrix

9.9.4.6 The overall climate risk for a climate change impact is determined by combining the likelihood of impact and consequence to receptor in the matrix displayed in Table 9-12 below.

9.9.4.7 Determining the scale of the climate impacts require professional judgement; therefore, the matrix includes a degree of flexibility when considering the consequence of an impact in the context of the likelihood of the climate impact occurring.

9.9.4.8 The climate score can be either a risk (negative) or a benefit (positive).

Table 9-12: Climate Risk Matrix

		Consequence to Receptor				
		Negligible	Limited	Medium	Large	Very Large
Likelihood	Very Low	Negligible	Negligible	Negligible	Minor	Minor
	Low	Negligible	Negligible	Minor	Moderate	Moderate

		Consequence to Receptor				
		Negligible	Limited	Medium	Large	Very Large
	Medium	Negligible	Minor	Moderate	Moderate	Moderate
	High	Minor	Moderate	Moderate	Major	Major
	Very High	Minor	Moderate	Moderate	Major	Substantial

9.9.5 Determining Significance Criteria for EIA

9.9.5.1 An EIA requires a level of significance to be determined in relation to climate change risks. The climate risk matrix will be applied, interpreting the climate risk or climate benefit score to the correlating significance criteria:

Table 9-13: Significance Criteria

Climate Risk Score	Significance of Effect
Substantial Risk / Benefit	Substantial Adverse / Beneficial Effect
Major Risk / Benefit	Major Adverse / Beneficial Effect
Moderate Risk / Benefit	Moderate Adverse / Beneficial Effect
Minor Risk / Benefit	Minor Adverse / Beneficial Effect
Negligible	Negligible Effect

9.9.5.2 Where a classification of Moderate, Major or Substantial is determined, this will be considered as 'Significant'.

9.9.5.3 Where a classification of Minor or Negligible is determined, this will be considered as 'Not Significant'.

9.9.6 Additional Baseline Information Required

9.9.6.1 Further work for the ES will be undertaken to establish the baseline conditions for the Scoping Boundary. This includes data collection from UKCP18 as set out in **Section 9.9.2** and other sources noted in **Table 9-5**.

9.9.7 Cumulative Effects

9.9.7.1 There are no cumulative climate vulnerability and resilience effects between the Proposed Development and other approved developments in the surrounding area, as the identified potential effects and mitigation measures are specific to the Proposed Development.

9.9.8 In-Combination Effects

9.9.8.1 There is potential for in-combination climate change effects to exacerbate other environmental effects identified in other topic chapters without mitigation. This will be assessed in the ES chapter, as identified in **Section 9.7.4**.

9.9.9 Limitations and Assumptions

9.9.9.1 Scientific evidence shows that the climate is changing. However, there are substantial uncertainties in the magnitude, frequency and spatial occurrence within the climate projections that will be utilised in this assessment. The UKCP18 are not predictions or forecasts but simulations of potential scenarios of future climate under a range of hypothetical emissions scenarios and assumptions, and therefore cannot be treated as exact or factual, but projection options. The projections are dependent on future global GHG emissions and, while several different scenarios are provided, it cannot be reliably predicted which (if any) emission scenario will occur over the next 80 years.

9.9.9.2 Additionally, projections after the 2040s increasingly diverge between scenarios and provide greater confidence for long-term climate averages than extreme events. For example, there is greater confidence around changes in temperature than there is in relation to wind. Levels of confidence and certainty will be considered when assessing the likelihood and consequence of climate impacts.

9.9.9.3 The assessment of likely significant effects of the Proposed Development on climate change in the ES will use the latest information sources available at the time of writing. New climate information is published regularly as more in-depth analysis of climate changes is completed, which may later supersede the information used to inform the assessment.

9.9.9.4 The 1981-2010 period has been selected to represent the local average climate data within the current baseline assessment of the Proposed Development. This is utilised as it corresponds with the reference period used by the UKCP18 future climate projections. While more recent observed climate datasets are available, their use would introduce inconsistency between the observed and projected datasets. Adoption of a common 1981–2010 baseline allows projected future climate conditions to be compared directly with observed historical conditions, providing a consistent basis for assessing climate change over time. As described in **section 9.6** and **9.9.2**, this approach is supplemented by a review of published literature and other relevant data sources to identify recent climate trends, weather events and climate extremes that have occurred since 2010 up to the time of writing (2026). This provides an up-to-date understanding of current climatic conditions whilst maintaining consistency with the UKCP18 baseline period used for future climate projections.

9.10 Proposed Approach to Mitigation

9.10.1.1 The assessment of effects will account for primary and tertiary mitigation measures. Following this, any requirements for secondary mitigation will be identified and residual effects will be clearly reported in the ES.

Primary Mitigation

9.10.1.2 Climate resilience measures will typically result from design standards to reduce the risk of infrastructure being damaged, for example, designing for thermal shock to reduce stress or cracking of materials and components. These may be a combination of primary and tertiary mitigation measures. Further information will be set out in the ES on standards of relevance to climate change for the Proposed Development.

9.10.1.3 Overheating mitigation will be addressed throughout design measures across the Proposed Development, including the incorporation of green infrastructure across the Scoping Boundary, and the inclusion of good design practises for new buildings which consider the glazing: wall ration, building orientation, building form and passive shading measures.

9.10.1.4 Primary mitigation that relates to flood risk includes a Surface Water Drainage Strategy which will be submitted with the DCO application. The Proposed Development will be designed to EA-approved set standards that include allowances for climate change. A more comprehensive list of proposed mitigation is provided in **Chapter 22: Water Environment**.

9.10.1.5 Green infrastructure-integrated sustainable drainage systems (SuDS) will be embedded into the design of the Proposed Development. Vegetation features such as trees, rain gardens, soft landscape planted corridors, ponds, wetlands and other landscaped areas will be multifunctional, providing flood risk mitigation as well as cooling benefits through shading and evapotranspiration, and supporting diverse and interconnected habitats. This can reduce local air temperatures, improve thermal comfort, help mitigate the urban heat island effect support habitats adapt and recover from climate hazards.

9.10.1.6 An Outline Landscape and Ecology Management Plan (OLEMP) will be submitted with the DCO Application. This will set out information on the proposed planting strategy for the Proposed Development, including the consideration to selecting climate resilient species.

Secondary Mitigation

9.10.1.7 Secondary mitigation measures are typically identified where the initial assessment (which is inclusive of all Primary and Tertiary Mitigation embedded within the design) concludes there will be a likely significant effect and therefore

additional mitigation measures are required. If secondary mitigation measures are required, such as adaptive management or monitoring, these will be set out in a Framework Climate Adaptation Plan which will be appended to the ES and submitted with the DCO Application.

Tertiary Mitigation

9.10.1.8 During construction, best practice measures will be implemented through a Construction Environmental Management Plan (CEMP), in accordance with the Outline Construction Environmental Management Plan (OCEMP) to be submitted with the DCO Application. This will include appropriate management of materials and temporary storage areas, staff briefings and health and safety. A Code of Construction Practice (or similar) is anticipated to set out best practice construction methods during adverse weather.

9.10.1.9 Other tertiary mitigation will include adherence to design standards that will be a requirement of the Proposed Development. The Proposed Development will be in line with the latest Building Regulations Part L 2026, commonly known as Future Buildings Standard (for non-residential buildings). This regulation provides guidance on limiting solar gains and overheating mitigation.

9.11 Summary

9.11.1.1 A summary of the elements scoped in/out of the CCRA is provided in **Table 9-14**.

Table 9-14: Elements scoped in/out of the climate change assessment

Discipline	Scoped In Elements	Scoped Out Elements
Climate Change	Impacts from future climate hazards on the Proposed Development, including the following receptor groups (which is not limited to): • Construction: Construction workers; temporary construction buildings and equipment; construction access infrastructure; existing blue and green infrastructure. • Operation: Aircraft and airside operations; infrastructure; buildings; structures; the runway; surface access; drainage; utilities and telecommunications; blue and green infrastructure; passengers and airport staff. A range of physicals hazards will be assessed, including (but not limited to): • Primary: Drought; heatwaves; extreme precipitation; flooding; extreme low temperatures and cold snaps, and storms (high winds). • Secondary: Lightening; fog; wildfire, and ground stability and subsidence. ICCIs will be assessed within each topic chapter scoped into the ES and include a high-level qualitative assessment.	Decommissioning of the Proposed Development: • Climate change (climate hazards including seasonal patterns and extreme weather) leading to unsafe conditions at the Scoping Boundary. Cumulative Effects: • Cumulative or inter-project climate vulnerability and resilience effects between the Proposed Development and other approved/existing developments in the surrounding area.

Environmental Impact Assessment Scoping Report

Chapter 10

Community

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Appendix 10-1: Community Baseline

10 Community

10.1 Introduction

10.1.1.1 This Chapter of the Environmental Impact Assessment (EIA) Scoping Report has been prepared by Volterra Partners LLP and sets out the likely significant community effects produced by the Proposed Development which will be reported in the Environmental Statement (ES).

10.1.1.2 The community assessment will identify potential effects from the Proposed Development on local residents, existing and planned community facilities and community-facing businesses and their users, homes and the housing market, public services and their users/beneficiaries, communities, community cohesion, and the nature of communities.

10.1.1.3 The effects in this chapter interact strongly with the effects in the following chapters insofar as they reflect 'population and human health' effects that are required to be assessed by EIA regulations.

- **Chapter 10 Community** – this chapter assesses the likely potential significant effects of the Proposed Development with respect to community receptors. This includes effects on residents and their homes, community facilities and their users, and public services and their users.
- **Chapter 11: Economics and Employment** – this chapter assesses the likely potential significant effects of the Proposed Development with respect to socio-economics and employment receptors, including effects on businesses, employment, skills and the labour market, airlines and airline users, and the wider economy.
- **Chapter 12: Recreation** – this chapter assesses the likely potential significant effects of the Proposed Development on recreation receptors, including effects on recreational routes and spaces and the people who use them.
- **Chapter 14 Health and Wellbeing** – this chapter assesses the likely potential significant effects of the Proposed Development on health receptors, including the physical and mental health and wellbeing of people.

10.1.1.4 The chapter should be read in conjunction with the above chapters, as the authors have aligned the assessments to ensure the reporting of effects across topic chapters is proportionate and focused. Reference to those chapters will be made where relevant throughout.

10.1.1.5 The approach to the assessment will be in overall conformity with that set out in **Chapter 4: Approach to EIA,** and any planned divergence from the general approach is set out where relevant in this chapter. As well as being closely related to the population and health effects across the respective chapters, the community assessment will also draw on the findings of the traffic and transport (**Chapter 21**),

major accidents and disasters (**Chapter 19**), noise and vibration (**Chapter 20**), air quality and odour (**Chapter 5**), and landscape and visual amenity (**Chapter 15**) assessments.

Supporting appendices

10.1.1.6 This chapter should be read in conjunction with **Appendix 10.1** which sets out:

- An initial review of the baseline characteristics of the study areas considered in the community assessment for the purposes of establishing sensitivity of receptors, pertaining to residents, homes and the housing market, and communities.
- Provisional identification of receptors to be used for the purposes of the assessment, including community facilities and community-facing businesses, and the public services potentially affected by the Proposed Development. This will be subject to refinement according to the rationale detailed in this chapter.

10.2 Policy, Legislation and Guidance

10.2.1.1 This section identifies the relevant topic specific policies that have informed the scope and, where relevant, the Study Area of the assessment presented in **Section 10.4**. Further information on the policies relevant to the EIA and their status is set out in **Section 1.9**, which should be read in conjunction with this chapter.

Table 10-1: Policy relevant to the community assessment

Relevant Policy / Legislation	Relevance to assessment
Policy – National	
Draft Heathrow Expansion National Policy Statement (HENPS) (2026)[1]	The draft HENPS (2026), once designated, will provide the likely primary policy framework against which a Heathrow DCO application will be examined, including for the purposes of the assessment of community effects, updated tests for economic growth, accessibility, place making, open space and green infrastructure, community, and skills. The policy direction indicated in the draft HENPS has informed the scoping of effects via its requirement of the Applicant to evidence how the Proposed Development will minimise impacts on direct displacement and loss of housing, community facilities and recreational spaces, and indirect effects on access to services, social networks, community cohesion and quality of life. The draft HENPS informs the development

[1] Department for Transport 2026. Draft Heathrow Expansion National Policy Statement. Published June 2026. Available at: Draft HENPS (accessed on: 18/08/2026).

Relevant Policy / Legislation	Relevance to assessment
	of a community benefits package, beyond that of a community compensation package. The draft HENPS, in setting out national policy for airport expansion, focuses specifically on the HAL Northern Runway project. In reviewing those policy documents, we have therefore also considered HAL's associated DCO application, for which a Scoping Addendum was submitted to PINS in September 2025 and a Scoping Opinion received in October 2025. The matters raised in HAL's 2025 Scoping Opinion have been taken into account in preparing the proposed approach to the assessment of community effects, where relevant to the Proposed Development.
Airports National Policy Statement (ANPS) (2018)[2]	The existing designated ANPS that HENPS is intended to replace is still important as the foundation for government policy on runway capacity in the South East and the economic rationale for selecting a northwest runway at Heathrow. The ANPS sets assessment principles for community compensation, community engagement, skills, and land use including open space, green infrastructure and Green Belt.
National Planning Policy Framework (NPPF) (2026)[3]	The NPPF addresses the creation of healthy and inclusive places through Policy HC1 by prioritising the provision and retention of essential community facilities. This framework directly informs the assessment of community cohesion by mandating the protection of key local assets under Policy HC6, which encompasses schools, healthcare facilities and community halls. Evaluations must identify existing deficits in public service infrastructure and ensure that proposed developments support social interaction to reduce inequalities. Whilst the NPPF is not part of the statutory decision-making framework for NSIPs, it can be considered an important and relevant matter.

[2] Department for Transport 2018. Airports National Policy Statement: new runway capacity and infrastructure at airports in the South East of England. Published June 2018. Available at: https://www.gov.uk/ (accessed on: 18/08/2026).
[3] Ministry of Housing, Communities and Local Government 2026. National Planning Policy Framework. Published August 2026. Available at: https://www.gov.uk/ (accessed on: 18/08/2026).

Relevant Policy / Legislation	Relevance to assessment
National Networks National Policy Statement (NN NPS) (2024)[4]	The NN NPS governs strategic road and rail schemes that will support Heathrow expansion, such as M25 alterations and any rail enhancements. The document emphasises that national networks must 'support a prosperous and competitive economy' and provide capacity and connectivity to facilitate growth and jobs. It establishes that applicants should consider the provision of additional local services and improvements to local infrastructure, including the provision of educational and visitor facilities, and should engage with local businesses and the local community at the pre-construction phase to understand opportunities for businesses and the community throughout construction.
Policy – Regional	
The London Plan (2021)[5]	The London Plan 2021 provides the statutory spatial framework for development across Greater London, setting out expectations for building strong and inclusive communities (Policy GG1). The Plan sets out a policy basis for the essential provision of facilities and services that support communities, including those within the Greater London Authority ('GLA') area that are in proximity to the Proposed Development. This includes efficient land use, the creation of vibrant neighbourhoods, and the delivery of more green and accessible spaces (Policies GG2, G1), and the promotion of social infrastructure (Chapter S1), including the development and safeguarding of healthcare, education, childcare, and sports facilities.
The Draft London Plan (2026)[6]	The Draft London Plan sets out proposed updates to London's strategic spatial and economic development strategy. It identifies functional economic areas, growth corridors, and industrial locations relevant to Heathrow. The policy guides how regional employment, sectoral impacts, and how benefits and costs are distributed across London boroughs are to be assessed. It also underpins consideration of whether expansion supports

[4] Department for Transport 2024. National Networks National Policy Statement. Published March 2024. Updated May 2024. Available at: https://www.gov.uk/ (accessed on 18/08/2026).
[5] Greater London Authority 2021. London Plan. Published March 2021. Available at: https://www.london.gov.uk/sites/default/files/the_london_plan_2021.pdf (accessed on: 20/08/2026).
[6] Greater London Authority 2026. The Draft London Plan. Published July 2026. Available at: https://www.london.gov.uk/ (accessed on: 20/08/2026).

Relevant Policy / Legislation	Relevance to assessment
	'good growth', including inclusive employment and quality place-making. Crucially, Policy GLE9 (Aviation) states that proposals for expansion at Heathrow 'should be refused unless no unacceptable environmental, transport, and congestion impacts are demonstrated'. This strict threshold is directly relevant to the assessment of community impacts. Policy HN3 further focuses around the provision of affordable housing in London, and its respective importance, which will be relevant to any effects on the housing market and homes.
Policy – Local	
Hillingdon Local Plan Part 1 (2012) and Part 2 (2020)[7]	The adopted Local Plan in each authority area sets the planning policy and development management strategy for the area over the respective plan period. These documents include policies that are in broad conformity with the NPPF and the presumption in favour of sustainable development. Policies included in each plan pertain to how communities are necessarily served by community/social infrastructure that aims to ensure their needs are met.
Hounslow Local Plan (2015)[8] and Reg 19 Local Plan (2026)[9]	
Ealing New Local Plan (2022)[10]	
Windsor and Maidenhead Local Plan (2022)[11]	
Buckinghamshire Draft Local Plan for Buckinghamshire (2026)[12]	
Runnymede Local Plan (2020)[13]	

[7] Hillingdon Council 2012. Hillingdon Local Plan: Part 1 - Strategic Policies and Part 2 - Development Management Policies. Published November 2012. Updated January 2020. Available at: https://www.hillingdon.gov.uk/local-plan (accessed on: 20/08/2026).
[8] London Borough of Hounslow 2015. Hounslow Local Plan 2015-2030. Published September 2015. Available at: https://www.hounslow.gov.uk/ (accessed on: 20/08/2026).
[9] London Borough of Hounslow 2024. Hounslow Local Plan 2020-2041. Published July 2024. Available at: https://www.hounslow.gov.uk/ (accessed on: 21/09/2026).
[10] Ealing Council 2022. Ealing's New Local Plan. Published November 2022. Available at: https://www.ealing.gov.uk/ (accessed on: 20/08/2026).
[11] Royal Borough of Windsor and Maidenhead 2022. Borough Local Plan 2013-2033. Published February 2022. Available at: https://www.rbwm.gov.uk/ (accessed on: 20/08/2026).
[12] Buckinghamshire Council 2026. Draft Local Plan for Buckinghamshire. Published July 2026. Available at: https://www.buckinghamshire.gov.uk/ (accessed on: 20/08/2026).
[13] Runnymede Borough Council 2020. Runnymede 2030 Local Plan. Published July 2020. Available at: https://www.runnymede.gov.uk/ (accessed on: 20/08/2026).

Relevant Policy / Legislation	Relevance to assessment
Spelthorne Local Plan (2026)[14]	
Elmbridge Core Strategy (2011) and Development Management Plan (2015)[15]	
Slough Core Strategy Development Plan (2008)[16]	
Richmond Upon Thames Local Plan (2025)[17]	
South Bucks Local Plan (1999)[18]	

Table 10-2: Legislation relevant to the community assessment

Relevant Legislation	Relevance to assessment
Legislation – National	
Levelling Up and Regeneration Act 2023[19]	The Levelling Up and Regeneration Act 2023 addresses national planning reforms and the statutory provision of local infrastructure funding. The legislation dictates the community assessment by establishing mechanisms for delivering essential neighbourhood facilities alongside major developments. Compliance requires project planning to align with local delivery strategies to secure appropriate mitigation for increased community demand.

[14] Spelthorne Borough Council 2026. Spelthorne Local Plan 2024-2039/40. Published March 2026. Available at: https://www.spelthorne.gov.uk/ (accessed on: 20/08/2026).
[15] Elmbridge Borough Council 2011. Elmbridge Core Strategy and Local Plan Development Management Plan. Published July 2011. Updated April 2015. Available at: https://www.elmbridge.gov.uk/ (accessed on: 20/08/2026).
[16] Slough Borough Council 2008. Slough Local Development Framework Core Strategy 2006-2026. Published December 2008. Available at: https://www.slough.gov.uk/ (accessed on: 20/08/2026).
[17] London Borough of Richmond Upon Thames 2025. Richmond Upon Thames Local Plan 2024-2039. Published October 2025. Available at: https://www2.richmond.gov.uk/ (accessed on: 21/09/2026)
[18] South Bucks District Council 1999. South Bucks Local Plan. Published March 1999, Consolidated September 2007 and February 2011. Available at: https://media.buckinghamshire.gov.uk/ (accessed on: 21/09/2026)
[19] UK Government 2023. Levelling Up and Regeneration Act 2023. Published October 2023. Available at: https://www.legislation.gov.uk/ukpga/2023/55/contents (accessed on: 24/08/2026).

Relevant Legislation	Relevance to assessment
Housing Act 2004[20]	The Housing Act 2004 addresses the statutory regulation of residential accommodation and minimum housing conditions across communities. The act frames the community assessment by guiding the evaluation of residential displacement resulting from compulsory acquisition and the subsequent effects on local housing stock. It provides the baseline for assessing how an influx of construction workers affects local residential availability and community amenity. Mitigation strategies must incorporate comprehensive relocation support and workforce accommodation plans to ensure legal compliance and safeguard local housing markets.
Education Act 1996[21]	The Education Act 1996 addresses the statutory duty of local planning authorities to secure sufficient primary and secondary school places for their resident populations. The legislation directs the community assessment by setting the requirements for evaluating direct physical impacts on educational facilities alongside indirect pressures from displaced residents. The act establishes the baseline against which analysts measure capacity changes within the local education network. Project compliance necessitates precise mitigation planning to ensure adequate alternative educational provisions are secured before any existing school infrastructure is removed.
School Premises (England) Regulations (2012)[22]	The School Premises England Regulations 2012 addresses the mandatory environmental and spatial standards required for educational facilities to function safely and effectively. The regulations shape the community assessment by defining the statutory amenity baseline used to evaluate acoustic or atmospheric disruptions upon school environments. Analysts use these legal standards to determine impact significance when project activities encroach upon teaching areas. Environmental mitigation must ensure protective measures uphold these statutory premises requirements to maintain a safe learning environment and achieve planning compliance.

[20] UK Government 2004. Housing Act 2004. Published November 2004. Available at: https://www.legislation.gov.uk/ukpga/2004/34/contents (accessed on: 24/08/2026).
[21] UK Government 1996. Education Act 1996 (Amended). Published July 1996. Available at: https://www.legislation.gov.uk/ukpga/1996/56/contents (accessed on: 24/08/2026).
[22] UK Government 2012. The School Premises (England) Regulations 2012. Published July 2012. Available at: https://www.legislation.gov.uk/uksi/2012/1943/contents/made (accessed on: 24/08/2026).

Relevant Legislation	Relevance to assessment
Equality Act 2010[23]	The Equality Act 2010 addresses the public sector equality duty and provides extensive legal protection against discrimination for individuals holding protected characteristics across society. The Act informs the community assessment by establishing the legal framework for identifying highly vulnerable groups who disproportionately rely on local civic facilities or social networks. The legislation demands that practitioners evaluate receptor sensitivity based on these specific demographic characteristics to understand uneven social impacts arising from facility displacement or service disruption.

Table 10-3: Guidance relevant to the community assessment

Relevant Guidance	Relevance to assessment
Guidance – National	
Planning Practice Guidance (PPG): Healthy and safe communities (2022)[24]	The healthy and safe communities PPG addresses how health priorities should be integrated into the built environment. The guidance is instructive for the community assessment by providing best practice against which to evaluate how developments alter local access to essential community amenities and recreational spaces.
Planning Practice Guidance: Housing and economic needs assessment (2021)[25]	The housing and economic needs assessment PPG sets out the standard method for calculating local housing requirements. The document guides the community assessment by establishing the baseline metrics used to evaluate how the Proposed Development might affect the local housing market and planning for future housing needs.
Planning Practice Guidance: Housing needs of	The housing needs of different groups PPG addresses the targeted provision of residential accommodation for specific demographics including the elderly and students. The guidance is instructive for understanding the community effect pathways in relation to different and varied housing needs.

[23] UK Government 2010. Equality Act 2010. Published April 2010. Available at: https://www.legislation.gov.uk/ukpga/2010/15/contents (accessed on: 24/08/2026).
[24] Ministry of Housing, Communities and Local Government 2022. Planning Practice Guidance: Healthy and safe communities. Published 2022. Available at: https://www.gov.uk/ (accessed on: 24/08/2026).
[25] Ministry of Housing, Communities and Local Government 2021. Planning Practice Guidance: Housing and economic needs assessment. Published 2021. Available at: https://www.gov.uk/ (accessed on: 24/08/2026).

Relevant Guidance	Relevance to assessment
different groups (2021)[26]	
Planning Practice Guidance: Housing supply and delivery (2021)[27]	The housing supply and delivery PPG addresses the monitoring of local land supplies to meet ongoing housing targets and highlights the importance of considering statutory housing delivery trajectories.
Institute of Sustainability and Environmental Professionals (ISEP) Social Impact Assessment (SIA) in Environmental Impact Assessment in the UK (2025)[28]	The ISEP SIA in EIA in the UK guidance addresses best practice methodologies for evaluating societal changes caused by major developments. The guidance frames the community assessment by advising on identifying significant effects on local populations and measuring disruptions to social cohesion and local service networks. The document details how to evaluate baseline community characteristics and measure potential changes to public services, housing and community wellbeing.
Highways England (2020) Design Manual for Roads and Bridges LA 112: Population and human health[29]	The Highways England Design Manual for Roads and Bridges LA 112 Population and human health addresses the technical evaluation of infrastructure impacts on local populations. The document informs the community assessment by defining receptor sensitivity and providing a standardised matrix to measure the magnitude of disruption to civic assets.
Department for Education (2023) Delivering schools to	The Department for Education Delivering schools to support housing growth addresses the planning and funding of educational infrastructure required alongside new development. The guidance guides the community assessment by outlining methodologies to calculate pupil yields and measure subsequent pressures on local educational facilities. Mitigation planning must secure adequate developer contributions to expand school capacity and ensure local

[26] Ministry of Housing, Communities and Local Government 2021. Planning Practice Guidance: Housing needs of different groups. Published 2021. Available at: https://www.gov.uk/ (accessed on: 24/08/2026).
[27] Ministry of Housing, Communities and Local Government 2021. Planning Practice Guidance: Housing supply and delivery. Published 2021. Available at: https://www.gov.uk/ (accessed on: 24/08/2026).
[28] Institute of Sustainability and Environmental Professionals (ISEP) 2025. Social Impact Assessment in Environmental Impact Assessment in the UK. Published 2025.
[29] Highways England 2020. Design Manual for Roads and Bridges LA 112: Population and human health. Published January 2020. Available at: https://www.standardsforhighways.co.uk/ (accessed on: 20/08/2026).

Relevant Guidance	Relevance to assessment
support housing growth[30]	educational networks can accommodate the expected population influx.
ISEP (2022) Effective scoping of human health in environmental impact assessment	Despite being more closely related to the health assessment, the guidance is nonetheless informative about the types of determinants on community wellbeing relating to community identity and social cohesion and access to local services.
Guidance – Regional	
Greater London Authority Social Infrastructure Supplementary Planning Guidance (SPG)[31]	The Greater London Authority Social Infrastructure SPG addresses the strategic provision of essential civic facilities across the capital. The document shapes the community assessment by providing specific regional benchmarks to evaluate how development alters local access to healthcare, schools and community halls. Compliance requires mitigation strategies to incorporate colocation principles and demonstrate adequate facility reprovision to meet the diverse needs of growing urban populations.

10.3 Stakeholder Engagement

10.3.1.1 Care will be taken to ensure all key stakeholders with views and concerns regarding community have the opportunity to discuss and agree on the details of the assessment in a meaningful and inclusive manner. This will include local authorities and communities that (a) have direct overlap with the Proposed Development and (b) those who have the potential to experience significant community effects by the airport's future operations and/or would be impacted by the Proposed Development.

10.3.1.2 Extensive engagement was previously undertaken between November 2018 and December 2019 in relation to previous proposals for the Heathrow West scheme. Whilst the scheme has progressed, some fundamental points raised remain relevant including service level provision and the potential impacts relating to disruption. Bodies engaged included:

- Colne Valley Regional Park Association: The organisation that looks after the large regional park to the west of Heathrow.

[30] Department for Education 2023. Delivering schools to support housing growth. Published August 2023. Available at: https://www.gov.uk/ (accessed on: 24/08/2026).
[31] Greater London Authority 2015. Social Infrastructure Supplementary Planning Guidance. Published May 2015. Available at: https://www.london.gov.uk/ (accessed on: 24/08/2026).

- Local resident and community groups: Stanwell Village residents, Laleham Residents Association, Lower Sudbury Resident Association, and Hayes Town Partnership.
- Local education and business representatives: Colnbrook Church of England (CoE) Primary School, Hounslow and Hillingdon Chambers of Commerce.
- Statutory environmental and aviation bodies: Natural England (the government's advisor on the natural environment), the Civil Aviation Authority (the UK's aviation regulator), and the Canal & River Trust (the charity that looks after England's waterways).

10.3.1.3 **Table 10-4** presents an overview of the stakeholders who have been engaged with to date as part of the preparation of this community chapter. The wider team has been engaging with wider stakeholders as part of the project, and more specific engagement on the impact of the scheme on community receptors will be carried out as the scheme develops on the design and possibilities for mitigation.

Table 10-4: Engagement with stakeholders

Consultee	Engagement undertaken to date	Proposed future engagement
Council for the Independent Scrutiny of Heathrow Airport (CISHA)	Initial meeting to discuss ways of ongoing communication	Methodology workshops and regular assessment progress meetings

10.3.1.4 It is intended that the above stakeholders will be re-engaged, and additional stakeholders and communities will also be engaged to fully understand baseline characteristics, impact significance and approaches to mitigation to support the ES. These are anticipated to include:

- National organisations, providers of standards and guardians of community receptors.
- Regional bodies responsible for setting guidance and policy on standards for community facility provision.
- Representatives of local communities including Parish Councils, Residents Associations and other community groups and individuals.
- Owners, operators, tenants and providers of community facilities and community-facing businesses. Community facilities include:
    - Schools;
    - Childcare;
    - Sports and leisure facilities including allotments, equipped play areas and indoor and outdoor sport;
    - Healthcare;
    - Libraries;
    - Community centres, village halls and similar venues;

- Community-facing businesses;
- Places of worship; and
- Special Educational Needs provision.

- User groups associated with affected community facilities, along with charity organisations, community groups, clubs and organisations. These include:
  - Sports and recreation clubs with and without accommodation;
  - Faith and religious groups; and
  - Equality, accessibility and inclusion groups.

10.4 Study Area

10.4.1 Community assessment areas

10.4.1.1 The areas used for the community assessment are based on the scale at which community effects are deemed to be potentially significant. These are identified based on a review of likelihood/effect pathways (**Section 10.7**), proximity and direct land take and/or interaction with the Scoping Boundary, service delivery and community receptor catchment areas.

10.4.1.2 The assessment areas used in other EIA topics are also of relevance and will inherently be used throughout the assessment of community effects where the findings of other environmental assessments are drawn from. For example, the assessment will be informed by the assessment areas used for the traffic and transport, landscape and visual amenity, noise and vibration, and air quality and odour where standard benchmarks inform the areas of those respective effects on human (community) receptors.

10.4.1.3 The assessment areas for the purposes of the community assessment will differentially apply to respective community effects (**Section 10.7**). The proposed assessment areas and their rationale for inclusion including spatial extent and definition are shown in **Table 10-5**.

Table 10-5: Community assessment areas

Community assessment area	Geography	Definition and relevance to the assessment
Community Areas (CAs)	A series of 21 local geographies: Bedfont, Brands Hill, Colnbrook, Cranford, Cranford Cross, Feltham North, Harlington, Harmondsworth, Hayes,	CAs are representative contiguous and identifiable neighbourhoods that have been determined through consideration of functional settlement geographies (by virtue of administrative boundaries and physical demarcations/separations by major infrastructure). These are considered to

Community assessment area	Geography	Definition and relevance to the assessment
	Heston, Hounslow (West and Heath), Iver and Richings Park, Longford, North Staines, Poyle, Sipson, Stanwell and Stanwell Moor, West Drayton, Horton and Wraysbury, and Langley. These areas are shown in **Figure 10.1** CAs are defined using output area statistical geographies which are set out in **Appendix 10.1**.	align broadly with coherent communities on which effects could occur. CAs have been identified for assessment because of their overlapping with the Scoping Boundary, whereby this overlap creates a reasonable significant community effect pathway by virtue of the works that could potentially occur in the relevant location. This includes direct displacement and severance due to land use changes and/or Compulsory Purchase Order (CPO) requirements; changes to access; and disturbance and amenity impacts due to other environmental effects (noise and vibration, air (dust), traffic, and visual change). This conforms with the local scale for considering social and economic effects per the HENPS. The CAs included in the assessment, and whether additional CAs require assessment, are subject to further refinement per the rationale described in this section of the chapter.
Inner Study Area (ISA)	The total extent of the 21 CAs. This is shown in **Figure 10.1**	The ISA is defined by the physical extent of the CAs and therefore broadly corresponds with land potentially required for the Proposed Development and relates to the aggregate of direct effects of the Proposed Development that will be experienced at a very local scale, per those occurring in the respective CAs. This assessment area also conforms with the local scale for considering social and economic effects per the HENPS.
Core Study Area (CSA)	The following ten local authority areas: London Borough of Hillingdon; London Borough of	This area includes all boroughs that contain communities within the ISA or are members or observers of the Heathrow Strategic Planning Group.[32] The CSA is used to

[32] Unitary authorities and boroughs as of the time of writing in September 2026. Should there be a change to local authorities as a result of local government reorganisation or otherwise, the CSA will continue to be formed by the area that is represented by this set of local authorities.

Community assessment area	Geography	Definition and relevance to the assessment
	Hounslow; London Borough of Ealing; London Borough of Richmond Upon Thames; Slough Borough Council; The Royal Borough of Windsor and Maidenhead; Buckinghamshire Council; Runnymede Borough Council; Spelthorne Borough Council, and Elmbridge Borough Council. This area is shown in **Figure 10.2**.	capture local community effects that are relevant to receptors (or can be measured) at the local level, such as public services and their users. The study area enables consultation with host Local Planning Authorities as providers of community facilities that are to be affected and effective and legible communication of effects at the administrative level, in line with draft HENPS guidance.[33]
Regional	London and the South East. This area is shown in **Figure 10.3**	Inclusion of the regional study area per HENPS guidance informs comparison of the relative significance of local effects versus regional benchmarks/characteristics and sensitivities.
Heathrow Operational Commuting Area (HOCA)	The principal area which characterises where the people who work at the Proposed Development will live	The HOCA is used to assess effects related to the operational workforce, and the subsequent effects on the housing market; this will be influenced by assumptions about the scale of employment demand, workforce availability and where the workforce is likely to commute from to access job opportunities at the Proposed Development.
Heathrow Construction Commuting Area (HCCA)	The principal area that characterises where the construction workforce of the Proposed Development live.	The HCCA is used to assess effects related to the construction workforce and subsequent effects on the housing market; this will be influenced by assumptions about the scale of employment demand, the likely accommodation and travel patterns of construction workers, the extent to which workers are drawn from the local labour

[33] Department for Transport 2026. Proposed draft revision to the Airports National Policy Statement. Published June 2026. Available at: https://assets.publishing.service.gov.uk/ (accessed 28/09/2026)

Community assessment area	Geography	Definition and relevance to the assessment
		market or utilising temporary accommodation, and any management strategies to be developed around workforce logistics and accommodation which will be developed to inform the ES. This would be developed in alignment with the traffic and transport assessment.
Compulsory Purchase Zone (CPZ)	The area within which residences and properties will be compulsorily purchased.	An area in which the direct impacts relating to displacement/loss of property applies.
Wider Property Offer Zone	The area for which the applicant will make commitments as part of the wider offer of mitigations against impacts on property.	An area in which the direct and indirect impacts relating to potential displacement/loss of property applies.
National	England	Inclusion of the national study area per HENPS guidance informs comparison of the relative significance of local effects versus national benchmarks/characteristics and sensitivities.

Rationale for refining the community assessment areas

10.4.1.4 The scoping exercise has identified a series of Community Areas which together comprise the ISA. A proportionate approach to identifying these areas has been taken in relation to the evolving Scoping Boundary. As scheme details and the nature of works are better understood, the boundary of the Proposed Development could be refined. Accordingly, those Community Areas under consideration may change, either through being omitted in later assessment, or through additional areas being scoped into the assessment. Any change to the extent of the Community Areas would, in turn, affect the definition of the ISA.

10.4.1.5 The rationale for including/omitting Community Areas will take into account the following principles:

- Whether there is a clear likely significant effect pathway (relating to the scoped in community effects) based on the nature of works within the Scoping Boundary and subsequent boundary for the ES.

- Further stakeholder engagement reveals that effects could be potentially significant in an area not currently included.
- Assessments across other ES topics that show likely significant effects in areas not currently included which are relevant to community effects.
- Refinement to the Scoping Boundary means the assessment of the Community Area is no longer relevant (there is no shared extent).
- The assessment of the area would be disproportionate because no likely significant effects would be expected to occur (through a combination of very low sensitivity receptors and/or low magnitude impacts).
- The effect is sufficiently assessed through other environmental topics, in the interests of avoiding duplication.

10.4.1.6 **Chapter 11: Economics and Employment** sets out the rationale by which the CSA could be refined for the purposes of ongoing assessment. This follows that, in addition to the shared extent of the Scoping Boundary and subsequent boundary for the ES, whether impacts are measurable at the local authority level will be taken into account.

10.5 Sources of Data used in Scoping

10.5.1.1 The scoping of community effects has been informed by a review of data sources relevant to community receptors within the study areas. These sources have been used to perform an initial appraisal of the existing and future baseline, identify relevant community receptors, understand current community conditions, and determine the likely scope of potentially significant effects requiring further assessment.

10.5.1.2 Whilst the existing baseline sets out current conditions within the study areas, the future baseline assesses a projection of future conditions without the Proposed Development, based on available information on future plans and knowledge of historic land uses. Additional detail on their relevance to the assessment methodology is provided in **Section 10.9**.

10.5.2 Baseline Sources

10.5.2.1 **Table 10-6** outlines the data sources that have been used as part of this scoping assessment. The baseline information derived from these sources is presented in **Section 10.6** and **Appendix 10.1**.

Table 10-6: Data sources used for scoping

Source	Data	Relevance to the assessment
Office for National Statistics Census data (2021)	Resident population Number of households Household size	Used to identify residents as receptors

Source	Data	Relevance to the assessment
		Used to identify/characterise homes and the housing market as receptors (number of households, average household size, affordability)
UK Data Service Community Needs Index (2023)	Community needs score	Used to characterise communities as receptors.
Department for Education (2026) Schools, pupils and their characteristics: January 2026	Primary schools Secondary schools Post-16 schools All-through schools Independent schools	Used to identify education facilities as community asset receptors
Hillingdon Strategic Infrastructure Plan (2017)	Early years Community centres Fire stations	Used in sifting and identification of community asset receptors
Hounslow Draft Infrastructure Delivery Plan (2025)	Libraries Places of worship Community centres	Used in sifting and identification of community asset receptors
Spelthorne Infrastructure Delivery Plan (2024)	Libraries Community centres Primary schools Secondary schools Post-16 schools All-through schools Independent schools GPs	Used in sifting and identification of community asset receptors
Buckinghamshire Local Plan Infrastructure Study (2024)	Primary schools Secondary schools Post-16 schools	Used in sifting and identification of community asset receptors

Source	Data	Relevance to the assessment
	All-through schools Independent schools GPs GPs Places of worship	
CoStar	Pharmacies Dentists Community centres Public houses Post offices Sport facilities	Used in sifting and identification of community asset receptors
Ministry of Housing, Communities and Local Government (2026) Educational establishment	Primary schools Secondary schools Post-16 schools All-through schools Independent schools	Used in sifting and identification of community asset receptors
Greater London Authority (2023) Cultural Infrastructure Map 2023	Libraries Community centres	Used in sifting and identification of community asset receptors
DayNurseries (2026)	Early years	Used in sifting and identification of community asset receptors
London Gypsies & Travellers (2026)	LGT Community Map – Services and Experiences	Used in sifting and identification of community asset receptors
NHS Digital (2026) English Dental Consultants	Dentists	Used in sifting and identification of community asset receptors
NHS Digital (2026) GP and GP practice related data	GPs	Used in sifting and identification of community asset receptors
Sport England (2026) Active Places Power	Sports facilities	Used in sifting and identification of community asset receptors

Source	Data	Relevance to the assessment
Thames Valley Police (2026) Find a police station.	Police service facilities and operations	Used in sifting and identification of community asset receptors
Surrey Police (2026) Find a police station.	Police service facilities and operations	Used in sifting and identification of community asset receptors
Royal Berkshire Fire and Rescue Service (2026) Fire stations.	Fire service facilities and operations	Used in sifting and identification of community asset receptors
Surrey County Council (2026) Fire Stations	Fire service facilities and operations	Used in sifting and identification of community asset receptors
Buckinghamshire Fire and Rescue Service (2026) Stations	Fire service facilities and operations	Used in sifting and identification of community asset receptors

10.5.2.2 Initial informal site visits have been undertaken as part of the scoping assessment in order to verify the results of the desk-based exercise (which utilised the data outlined above). The in-person visits verified the operational status of a limited number of assets where desk-based verification was inconclusive.

10.5.2.3 Many receptors will be relevant to assessments across various scoped in environmental topics. Health receptors, for example, have important community functions. **Chapter 14: Health** sets out the tiered approach to be taken for the purposes of identifying additional health receptors. The ongoing process of identification will be reflected on and relevant receptors included in the community assessment where applicable to the community effect pathways.

10.6 Baseline conditions

10.6.1.1 Baseline data has been used in this scoping exercise to establish existing conditions within the Community Areas that comprise the ISA, as well as characterising each of the ISA and CSA in comparison to regional and national data.

10.6.1.2 Secondary data has been collected including using official national statistics and other sources to outline an empirical understanding of the receptors that will be considered in the assessment and their broad characteristics.

10.6.1.3 Census 2021 data has been used throughout, which provides data at the smallest possible level that official statistics are released (output areas) enabling a granular perspective on communities. However, as identified in **Table 10-7** there are other

data sources, some provided at different spatial scales and by different organisations, that will be relevant to the assessment and will be used to supplement Census data.

10.6.1 Baseline Description

10.6.1.1 A summary of the baseline conditions in each community assessment area is shown below. A fuller scoping baseline is set out in **Appendix 10.1** and should be read in conjunction with baseline data presented in **Chapter 14: Health** and **Appendix 14.1**.

10.6.1.2 A detailed land referencing exercise is being undertaken to support the ES which will be used to understand the residential, business and community assets within the appropriate assessment areas. Information on number of dwellings and related statistics will be refined as the land referencing assessment is finalised.

10.6.1.3 Analysis of the initial baseline data collected for the 21 CAs that comprise the ISA shows:

- There is considerable demographic variation and an uneven distribution of community infrastructure across the CAs of the ISA;
- Household size is highly variable, with 9 of the 21 areas recording average household size above the ISA average of 3.21. This ranges from larger average household sizes in the CAs closest to Heathrow Airport (Longford at 4.88, and Sipson at 3.71) to smaller average households in sparser CAs such as Horton and Wraysbury at 2.71.
- Some CAs have greater concentrations in absolute terms of number of community facilities (across healthcare, education and other social infrastructure) such as Hounslow (West and Heath) and Heston. The variation between areas of concentrated provision and areas of limited facilities is a defining characteristic of the community baseline.

Table 10-7: Baseline conditions summary for Iver and Richings Park, North Staines, Stanwell, and Stanwell Moor

Receptor group	Indicator	Iver and Richings Park	Harlington	North Staines	Stanwell	Stanwell Moor	ISA	CSA
Homes and housing market	Number of dwellings	12,270	2,160	2,180	6,620	590	83,970	942,830
	Average household size	2.85	3.33	2.64	2.81	2.71	3.21	2.64
Community facilities and community facing businesses	GPs	2	2	0	3	0	44	-
	Pharmacies	2	1	1	2	0	23	-
	Dentists	4	1	2	1	0	31	-
	Schools and early year facilities	5	2	1	7	0	107	-
	Places of worship	6	3	1	7	1	78	-
	Community centres	1	2	1	4	1	45	-

Receptor group	Indicator	Iver and Richings Park	Harlington	North Staines	Stanwell	Stanwell Moor	ISA	CSA
	Public houses	3	4	4	4	1	66	-
	Post offices	2	1	1	2	0	15	-
	Libraries	0	0	0	1	0	11	-
	Children's centres	0	0	0	0	0	5	-
	Sports facilities	5	4	0	5	0	66	-
	Youth centre	0	1	0	0	0	5	-
	Emergency service facilities	0	0	0	2	0	6	-
	Allotments	0	0	0	1	0	10	-
	Gypsy and traveller sites	0	0	0	0	0	5	-

Table 10-8: Baseline conditions summary for Poyle, Colnbrook, Brands Hill, Hounslow (West and Heath), and Feltham North

Receptor group	Indicator	Poyle	Colnbrook	Brands Hill	Hounslow (West and Heath)	Feltham North	ISA	CSA
Homes and housing market	Number of dwellings	710	840	1,060	8,350	4,650	83,970	942,830
	Average household size	3.19	2.47	3.10	3.29	3.57	3.21	2.64
Community facilities and community facing businesses	GPs	0	0	0	14	4	44	-
	Pharmacies	0	1	0	2	0	23	-
	Dentists	0	0	0	4	1	31	-
	Schools and early year facilities	1	1	1	15	4	107	-
	Places of worship	0	3	0	16	5	78	-
	Community centres	0	1	1	3	3	45	-

Receptor group	Indicator	Poyle	Colnbrook	Brands Hill	Hounslow (West and Heath)	Feltham North	ISA	CSA
	Public houses	2	2	0	15	2	66	-
	Post offices	0	0	1	1	1	15	-
	Libraries	0	1	0	2	0	11	-
	Children's centres	0	0	0	1	0	5	-
	Sports facilities	0	0	0	11	4	66	-
	Youth centre	0	0	0	0	0	5	-
	Emergency service facilities	0	0	0	0	1	6	-
	Allotments	0	0	0	0	0	10	-
	Gypsy and traveller sites	1	0	0	0	0	5	-

Table 10-9: Baseline conditions summary for Bedfont, Heston, Cranford, Cranford Cross, and Hayes

Receptor group	Indicator	Bedfont	Heston	Cranford	Cranford Cross	Hayes	ISA	CSA
Homes and housing market	Number of dwellings	5,260	7,910	2,420	690	4,910	83,970	942,830
	Average household size	2.98	3.42	3.46	3.29	3.61	3.21	2.64
Community facilities and community facing businesses	GPs	4	5	2	0	3	44	-
	Pharmacies	2	2	1	0	0	23	-
	Dentists	1	6	2	0	0	31	-
	Schools and early year facilities	7	24	6	0	7	107	-
	Places of worship	4	11	5	1	1	78	-
	Community centres	4	6	2	0	3	45	-
	Public houses	3	0	1	0	2	66	-

Receptor group	Indicator	Bedfont	Heston	Cranford	Cranford Cross	Hayes	ISA	CSA
	Post offices	1	1	0	0	0	15	-
	Libraries	1	2	1	0	1	11	-
	Children's centres	0	0	1	0	1	5	-
	Sports facilities	3	14	5	0	3	66	-
	Youth centre	0	0	0	0	1	5	-
	Emergency service facilities	0	0	0	0	1	6	-
	Allotments	0	3	1	0	1	10	-
	Gypsy and traveller sites	0	0	1	0	0	5	-

Table 10-10: Baseline conditions summary for Longford, Harmondsworth, Sipson, and West Drayton

Receptor group	Indicator	Longford	Harmondsworth	Sipson	West Drayton	ISA	CSA
Homes and housing market	Number of dwellings	310	730	400	7,880	83,970	942,830
	Average household size	4.88	3.15	3.71	3.19	3.21	2.64
Community facilities and community facing businesses	GPs	1	0	0	2	44	-
	Pharmacies	0	0	0	4	23	-
	Dentists	1	0	0	1	31	-
	Schools and early year facilities	1	5	2	6	107	-
	Places of worship	1	2	1	5	78	-
	Community centres	2	4	1	4	45	-

Receptor group	Indicator	Longford	Harmondsworth	Sipson	West Drayton	ISA	CSA
	Public houses	9	2	2	5	66	-
	Post offices	0	1	1	1	15	-
	Libraries	0	0	0	1	11	-
	Children's centres	1	0	0	1	5	-
	Sports facilities	0	1	0	4	66	-
	Youth centre	0	1	0	2	5	-
	Emergency service facilities	0	2	0	0	6	-
	Allotments	0	2	0	2	10	-
	Gypsy and traveller sites	0	0	0	1	5	-

Table 10-11: Baseline conditions summary for Horton and Wraysbury and Langley

Receptor group	Indicator	Horton and Wraysbury	Langley	ISA	CSA
Homes and housing market	Number of dwellings	2,210	7,530	83,970	942,830
	Average household size	2.74	3.04	3.21	2.64
Community facilities and community facing businesses	GPs	0	2	44	-
	Pharmacies	0	5	23	-
	Dentists	1	6	31	-
	Schools and early year facilities	1	11	107	-
	Places of worship	1	4	78	-
	Community centres	0	2	45	-
	Public houses	3	2	66	-
	Post offices	0	1	15	-
	Libraries	0	1	11	-

Receptor group	Indicator	Horton and Wraysbury	Langley	ISA	CSA
	Children's centres	0	0	5	-
	Sports facilities	2	5	66	-
	Youth centre	0	0	5	-
	Emergency service facilities	0	0	6	-
	Allotments	0	0	10	-
	Gypsy and traveller sites	0	2	5	-

10.6.1.4 Long term projections and forecasts provide an indication of the future baseline (the conditions at the expected time at which an environmental effect is expected to occur), which may be different to the conditions as currently understood. Projections of community characteristics are rarely available at local geography scales due to the inherent uncertainty with anticipating change at a hyperlocal scale. However, methods of apportioning projections for wider areas will be applied. Further assessment and data collection, including through stakeholder engagement, will allow for refinement of understanding of the future baseline at this scale where possible.

10.6.1.5 The community assessment, insofar as residents are receptors, will take into account demographic change over time. This will be underpinned by population projections that are available at wider geographies, including projections undertaken on the economy as part of the respective assessment.

10.7 Likely Significant Effects Requiring Assessment

10.7.1.1 The role of the scoping exercise is to identify community effects which are potentially significant in each of the phases of the Proposed Development. This is done to enable a proportionate assessment that provides decisionmakers with appropriate evidence to weigh the balance of effects and their relative benefits and disbenefits (adverse and beneficial effects).

10.7.1.2 Without undertaking a full assessment on the effects on each receptor at this stage, potentially significant effects are considered to be those which have a reasonable/likely source-pathway-receptor relationship for the Proposed Development i.e. there is a feasible pathway by which receptors could be affected. These pathways are therefore also presented; this provides an indication of the way the effects are conceptualised and will be assessed in the later assessments.

10.7.1.3 Potential effects have been identified through a review of the types of effect included in best practice, precedent, legislation and guidance where available (noting there is no specific legislation on the types of effects to be considered in a community assessment for the purposes of EIA). This exercise has drawn on the guidance set out in **Table 10-3**. Given the close relationship of the community, economy and employment, and human health assessments (under the population and human health umbrella set out in EIA guidance), applicable guidance to those topics has also been reviewed.

10.7.1.4 'Population and human health' effects will be assessed across **Chapter 10: Community**, **Chapter 11: Economics and Employment, Chapter 12: Recreation** and **Chapter 14: Health.** Where a sufficiently similar impact pathway is under consideration, an assessment has not been duplicated across topics. Many of the receptors and effect pathways are related. **Table 10-12** provides more detail on the differing effects covered in each chapter.

Table 10-12: Population and health effects matrix

Topic	Community	Economics and Employment	Recreation	Health
Land take and displacement	Community severance; population change; changes to community facilities and social infrastructure	Displacement of businesses, commercial, agricultural and mineral property; loss of local economic capacity and town centre catchments	Changes to recreational open spaces and routes	Relocation stress; disrupted routines, social networks and access to services; loss of place and attachment; changes to healthcare infrastructure access, demand and service delivery.
Access, severance and connectivity	Access to local services, schools and community facilities	Disruption to residents' economic participation; journey time changes to/from employment locations; commuting costs	Severance of routes to open space, rights of way and recreational journeys	Access to services, employment and social support; active travel, independence and unequal effects on vulnerable groups.
Employment, skills and economy	Local participation in employment and skills opportunities; alignment with local authority economic priorities	Direct, indirect and induced employment and GVA; supply chain, additionality; apprenticeships; Employment and Skills Strategy		Employment, income, skills and job quality; financial security, wellbeing and fair access to opportunities.
Open space, recreation and	Amenity value of open space; informal		Quantity, quality and accessibility of formal and	Physical activity, social interaction and

Topic	Community	Economics and Employment	Recreation	Health
green/blue infrastructure	recreation; neighbourhood character		informal provision; standards; rights of way; green/blue infrastructure networks	the restorative benefits of accessible green and blue space.
Housing and accommodation	House prices; housing affordability; neighbourhood character and housing market effects	Visitor accommodation stock and demand; pressure on temporary accommodation from non-home-based construction workforce		Housing availability, affordability, overcrowding and security; workforce accommodation pressures.
Community and social environment	Community identity, cohesion and social networks; community safety; local services and cultural assets	Composition and resilience of the local business base	Recreational settings as places for social interaction, participation and community activity	Mental wellbeing, community identity, cohesion, social support, safety and resilience.
Environmental exposure and amenity	Residential amenity and neighbourhood environmental quality; community perception of local environment	Economic consequences for businesses; effects on business viability	Discouragement from use and enjoyment of outdoor recreational settings; effects on the amenity of open space	Health effects from air quality, noise, vibration, climate risks, flooding and actual or perceived public health risks.

Receptors

10.7.1.5 The receptors identified in **Table 10-13** may experience likely significant effects as a result of the Proposed Development. The list of receptors will be kept under review during the EIA as more detailed information is obtained during baseline surveys and other forms of data collection and will be reflected in the ES.

10.7.1.6 Receptors for the purposes of the community assessment are those people, groups and assets that experience an environmental impact. The receptor groups to be included in the assessment of community effects are:

- Residents;
- Homes and the housing market;
- Communities;
- Community facilities and community-facing businesses, and users of those facilities; and
- Public services and users/beneficiaries of those services.

10.7.1.7 Receptors that have been identified for assessment are shown in **Table 10-13**. The included receptors will be refined through ongoing assessment activities, including stakeholder engagement. A fuller list of the receptors comprising community facilities and community facing businesses is provided in **Appendix 10.1**. The list provided is intended to be indicative of the receptors to be included at this stage. It has been presented at this stage to show the potentially affected community receptors in order to enable meaningful engagement but is subject to change as the Proposed Development design evolves and the status of the receptors is confirmed.

Table 10-13: Receptor groups and types included in the community assessment

Receptor group	Receptor types
Residents	Residents
Homes and the housing market	Homes and the housing market
Communities	Communities
Community facilities and community-facing businesses, and users of those facilities	GPs Pharmacies Dentists Early years facilities Primary schools Secondary schools Post-16 schools

Receptor group	Receptor types
	All-through schools Independent schools Places of worship Community centres Public houses Post offices Libraries Children's centres Youth centres Sport facilities[34] Gypsy and traveller sites
Public services and users/beneficiaries of those services	Police service facilities and operations Fire service facilities and operations Emergency healthcare facilities including hospitals Ambulance service facilities and operations

Effect pathways

10.7.1.8 To determine effects which are potentially significant, consideration has been given to the source-pathway-receptor pathways by which community effects could occur. These are shown in **Table 10-14**.

Table 10-14: Community effect pathways

Source	Pathway	Receptor	Phase
Increased number of construction workers in the area	Increased demand for temporary housing within the HCCA could raise or change the level of demand relative to existing housing need	Homes and housing market	Construction
Operational employment generation	Increased demand for housing in the HOCA could raise or change the level of demand	Homes and housing market	Operation

[34] Includes sports pitches within schools where these are available to lease.

Source	Pathway	Receptor	Phase
	relating to the housing need and available supply		
Displacement of residents from their homes due to land take and associated construction activity	Both the prospect and the act of displacement could create wellbeing effects including stress, uncertainty and anxiety. The transition of leaving home, finding a new home and rebuilding one's life affects quality of life	Residents	Construction
Land take changes the functionality of community facilities, public spaces and community-facing businesses	Land take creates direct changes to the physical characteristics of buildings and their surrounding environment, affecting their viability, accessibility or sustainability as assets	Existing and planned community facilities and community-facing businesses	Construction Operation
Land take changes the ability of users of community facilities, public spaces and community-facing businesses to access those assets	Reductions or changes to the functionality of community facilities, public spaces and community-facing businesses reduce the benefits users accrue from them	Users of community facilities and community-facing businesses	Construction Operation
Land take creates changes in the amenity and/or catchment area of community facilities, public spaces and community-facing businesses	Land take creates environmental impacts on community assets and their surrounding area which build up over time, affecting amenity quality and operational functionality	Existing and planned community facilities and community-facing businesses	Construction Operation
Construction activity, land take and associated environmental changes affect the amenity quality of homes	Environmental effects on the surrounding area, including noise, vibration, air quality, odour, traffic and visual effects which build up over time, may affect the amenity quality, desirability and liveability of homes	Homes	Construction Operation

Source	Pathway	Receptor	Phase
Impact on community cohesion and the nature of communities as a result of changes in population characteristics and distribution of homes and physical facilities (Construction: from temporary construction activity; Operation: from permanent land take)	Changes to physical facilities affect the nature of their use and the benefits they provide. Changes to the distribution of people and homes disrupt community networks built around hyperlocal proximity	Communities	Construction Operation
Effects on the provision of public services (Construction: transitional effects; Operation: permanent effects)	Changes to the built environment and local population alter the viability and deliverability of public services, affecting the quality of service provision	Users and beneficiaries of public services	Construction Operation
Construction activity, temporary traffic management, route diversions, permanent land take and altered access arrangements	Changes to the accessibility of routes linking within and across communities (Construction: from construction activity; Operation: from permanent land take) reduce the ability of residents, visitors and traders to move across communities	Residents	Construction Operation

10.7.2 Construction

10.7.2.1 There are a number of potentially significant effects on community receptors that could occur during the construction phase of the Proposed Development. The activities, effects, receptors on which these effects are likely to occur, the justification for scoping these effects into the assessment, and the study areas at which these effects are proposed to be assessed are shown in **Table 10-15**.

Table 10-15: Potentially significant community effects during the construction phase

Activity	Effect	Receptor	Pathway	Community assessment areas
Temporary construction workforce and supply chain	The potential temporary effect of employment generation and construction activity on the labour market and subsequently the housing market	Housing market	Temporary construction workforce could increase demand for housing and place additional pressure on local supply	HCCA, CSA
Displacement/loss or other change to homes, community facilities and community facing businesses as a result of land use change	Potential effects related to the displacement of tenants and owners of residential property across all tenures as a result of the extent of land required by the Proposed Development (both temporary and permanent land take), including transitional effects	Residents	Temporary and/or permanent land take requires displacement of residents from homes, causing disruption and stress	CAs, ISA, CPZ, WPOZ
	Potential temporary and permanent effects on the viability, sustainability, and accessibility of all existing and planned physical community facilities and public spaces and community-facing businesses and their users within the ISA where they are displaced by the land needed for the Proposed Development	Existing and planned community facilities and community facing businesses and their users	Land take may directly displace or alter community facilities and community-facing businesses, affecting their operation Users may lose the health, wellbeing or social benefits provided by displaced community assets	ISA

Activity	Effect	Receptor	Pathway	Community assessment areas
	Effects on the amenity and quality of homes	Residents	Changes arising from construction or land take could reduce the quality and desirability of homes as places to live	ISA
	Effects on the catchment or amenity of community facilities or community-facing businesses	Existing and planned community facilities and community facing businesses	Effects on catchment and amenity can indirectly weaken the role and viability of community assets, even where they are not directly displaced	CAs, ISA
Population and demographic change, including changes to communities, and the way they connect and move	Potential permanent effects on community cohesion and the nature of communities as a result of change in population characteristics and distribution of homes and physical facilities, including as a result of a temporary construction workforce, and at the operational phase compared with today and the future baseline	Communities	The removal or relocation of households and physical facilities may weaken established neighbourhood relationships and reduce the quality of community life and resilience of communities	CAs, ISA
	Effects on community cohesion and the nature of communities as a result of change in population characteristics and distribution of homes and physical facilities as a result of displacement/loss of homes including	Communities Residents	The location and uptake of the **Wider Property Offer** may influence whether displaced households remain within their existing community areas or	CAs, ISA

Activity	Effect	Receptor	Pathway	Community assessment areas
	uptake of the **Wider Property Offer**, as well as effects relating to community severance.		relocate elsewhere, affecting social networks, community composition and cohesion. Changes to routes and access affect everyday movements within and between communities.	
Planning for placemaking and meeting community needs	Potential temporary/permanent transitional effects on the provision of public services (where relevant) across the wider study area	Users/beneficiaries of public services	The project will create additional short term demands on service providers, affecting how public services (healthcare and education) are planned and delivered	CSA

10.7.3 Operation

10.7.3.1 There are a number of potentially significant effects on community receptors that could occur during the operational phase of the Proposed Development. The activities, effects, receptors on which these effects are likely to occur, the justification for scoping these effects into the assessment, and the study areas at which these effects are proposed to be assessed are shown in **Table 10-16**.

Table 10-16: Potentially significant effects during the operation phase

Activity	Effect	Receptor	Pathway	Community assessment areas
Employment and business generation	The potential additional effects on the housing market as a result of operational employment generation	Housing market	Employment growth associated with expansion could increase long term demand for housing and place additional pressure on local supply. Affordability worsens for renters, but owner-occupiers may see wealth gains. Properties under proposed flight paths may become less desirable, depressing values in areas of the CSA even as the wider market tightens.	HOCA, CSA
Displacement/loss or other change to homes, community facilities and community facing businesses	Potential temporary and permanent effects on the viability, sustainability, accessibility, amenity, catchment and operational functionality of all existing and planned physical community facilities, public spaces and community-facing businesses and their users, including where assets experience associated environmental change.	Existing and planned community facilities and community facing businesses, and their users	Airport operational activity and associated environmental change may affect the amenity or catchment of community assets, including through changes in patronage. These changes may affect their operational functionality and ability to continue serving local needs effectively over time.	CAs, ISA, CPZ, WPOZ

Activity	Effect	Receptor	Pathway	Community assessment areas
	Potential permanent effects on the amenity quality, desirability and liveability of homes as a result of environmental effects on the surrounding area, including noise, vibration, air quality, odour, traffic and visual effects.	Housing market Residents	Operational activities at the airport may generate impacts on noise, vibration, air quality, odour, traffic and visual elements. As such, this may have a knock on effect on the amenity of homes, and residents in community areas.	CAs, ISA
Permanent population and demographic change, including changes to communities, and the way they connect and move.	Effects on community cohesion and the nature of communities as a result of change in population characteristics and distribution of homes and physical facilities, as well as effects relating to community severance	Communities Residents	Demographic and spatial change may alter established social networks, patterns of local interaction and the character of existing communities. Changes to routes and access affect everyday movements within and between communities.	CAs, ISA
Planning for placemaking and meeting community needs	Potential permanent effects on community cohesion and the nature of communities as a result of change in population characteristics and distribution of homes and physical facilities at the operational phase compared with today and the future baseline	Users/beneficiaries of public services	The project will create additional demands on service providers, affecting how public services (healthcare and education) are planned and delivered	CSA

10.7.4 Decommissioning

10.7.4.1 The Proposed Development is intended to form a permanent part of Heathrow Airport. Decommissioning of the Proposed Development is not currently anticipated and no decommissioning activities, programme or parameters have been defined. The overarching approach to decommissioning is set out in **Chapter 4: Approach to EIA**.

10.7.4.2 If decommissioning were proposed in the future, removal or demolition activities could give rise to temporary community pathways broadly similar to those associated with construction. Depending on the nature and location of the works, these could include changes in air quality, noise and vibration, traffic and access, community safety, land quality, flooding, open space, employment and income, access to services, and public understanding of risk. The relevant receptors would be determined by the location and extent of the future activities and the populations exposed.

10.7.4.3 However, in the absence of defined decommissioning proposals, it is not possible or proportionate at this stage to characterise the scale, duration, geographical extent or magnitude of these effects. Decommissioning is therefore not proposed for separate assessment within the Community chapter or inclusion as a series of individual effects in the likely significant effects table.

10.7.4.4 Any future decommissioning proposal would be expected to be subject to the planning, environmental assessment and regulatory requirements applicable at that time. This would provide the appropriate basis for assessing community effects, identifying affected communities and vulnerable groups, and establishing proportionate mitigation, monitoring and community liaison arrangements. Where individual components of the Proposed Development have a defined design life or foreseeable replacement or removal requirement, these will be considered through the relevant technical assessment and reflected in the Community assessment only where a credible effect pathway is identified.

10.8 Effects Not Requiring Assessment

10.8.1.1 Based on the review of baseline information, it is proposed that no community effects are explicitly scoped out at this stage. Effects relating to community that are considered to be sufficiently assessed in other environmental topics are shown in **Table 10-12.**

10.9 Proposed Approach to Assessment

10.9.1.1 This section sets out the proposed approach to assessment of the likely significant effects identified in **Section 10.7**.

10.9.1.2 There is no legislation or formal guidance on the approach to determining significance of community effects for the purposes of environmental impact assessment. However, it is widely agreed and accepted that the method conforms with the overarching EIA approach whereby significance is determined through the consideration of the sensitivity of the receptor and magnitude of impact. The significance of each effect is also considered to be a function of its nature: likelihood, duration (short to long term, temporary/permanent), frequency, and interaction (direct/indirect).

10.9.1.3 Effects can be characterised as beneficial (meaning they are likely to lead to a positive outcome or change compared to baseline conditions), or adverse (meaning they are likely to lead to a negative outcome or change compared to baseline conditions).

Approach to assessment

10.9.1.4 In the absence of a prescribed methodology, existing policy, standards and guidance are drawn on together with analysis and methods established for other large infrastructure and development projects, to inform the approach.

10.9.1.5 The approach to assessing likely significant effects in the preliminary assessment will therefore proceed through the following steps:

- Confirmation of receptors: the initial list of community receptors that have been identified (**Appendix 10.1**) through the scoping assessment will be subject to refinement and confirmed through additional desk-based and site visit investigation, as well as stakeholder engagement.
- Refinement of sensitivity and magnitude definitions through a review of policy, legislation, standards and guidance: national, regional, and local policies that govern the provision of community services applicable/available at the time of assessment will be reviewed, and assessment criteria framework refined for each effect pathway.
- Additional baseline data collection: the baseline and future baseline positions will be understood in more detail through additional analysis of the sources identified in this chapter.
- Technical and stakeholder engagement: further engagement with key stakeholders and community organisations will be undertaken to capture the effect pathways, the determination of sensitivity, the scale of magnitude of impacts, and necessary mitigation measures.
- Determining of significance of effects: scheme information will be applied to the refined assessment framework to determine whether effects are likely to be significant.
- Consideration of future baseline: effects that apply to a different baseline position, noting the point at which an effect could occur could be different in future, will be taken into account. Where there is uncertainty, the assessment will transparently describe the impact of that uncertainty and what has been assumed in order to reach a reasonable worst case conclusion.

Assessment Years

10.9.1.6 The overall approach to determining the assessment years that will be used for the EIA is provided in **Chapter 4: Approach to EIA**. Assessment years which are indicatively proposed to be used for the purposes of the community assessment specifically are shown below. These will be defined and specified as scheme details with regard to the spatial extent and temporal activities are refined.

10.9.1.7 Different effects will arise as a result of the phasing of the different activities of the construction and operational phases. The interaction of the activities and their maximum impact/interaction will be taken into account such that the worst case scenario in each regard is assessed, and this may be a different year per effect. Indicatively the assessment years per phase for the community assessment are:

- Construction phase:
  - Construction start year;
  - Reasonable worst-case scenario year: the maximum interaction of Proposed Development activities and the environmental effects (adverse, beneficial) occurring on the receptor; and/or
  - Peak construction activity year(s): the maximum impact of construction activity, where different to the above years.
- Operation phase:
  - Operation start year;
  - Operation effect year: the year(s) for which the operational activity would have an effect on the receptor; and/or
  - Reasonable worst-case scenario year: the maximum interaction of Proposed Development operational activities and the environmental effects (adverse, beneficial) occurring on the receptor.

Sensitivity

10.9.1.8 The sensitivity of a receptor refers to its ability to withstand or adapt to environmental change. The sensitivity of the receptor will be determined using a combination of primary and secondary data, stakeholder feedback, and professional judgement. A sensitivity level of either high, medium, low or negligible will be assigned to each relevant receptor. The sensitivity levels are characterised by the broad definition of effect levels shown in **Table 10-17**.

Table 10-17: Broad initial definition of sensitivity levels

Sensitivity	Initial definition
High	Represents a community receptor of high importance. The receptor is very sensitive to most temporary or permanent changes, over the whole receptor, and/or very sensitive to alteration of key characteristics or features of the receptor's character or distinctiveness. The effect of changes to the receptor would be highly noticeable, possibly due to no surplus capacity/high scarcity.
Medium	Represents a community receptor of moderate importance, which is sensitive to certain temporary or permanent changes, over the majority of the receptor, and/or sensitive to alteration of key characteristics or features of the receptor's characteristics or distinctiveness. Changes to the receptor would bring about noticeable changes in the study area.
Low	The receptor is of low importance, with some sensitivity to some specific types of change, over a minority of the receptor, and/or limited sensitivity to the alteration of key characteristics or features of the receptor's character or distinctiveness. The receptor is therefore relatively insensitive to changes in baseline conditions.
Very low	The receptor is not sensitive to change in baseline conditions, with potential exception of specific aspects, over a small area of the receptor, and/or does not contain any key characteristics or features of a particularly sensitive character or distinctiveness.

Magnitude

10.9.1.9 Magnitude refers to the scale, severity and permanence of an impact occurring on a receptor. The magnitude of the impact will be similarly determined using a combination of primary and secondary data, stakeholder feedback, and professional judgement. A magnitude level of either high, medium, low or negligible will be assigned to each relevant receptor. Broad definitions of the magnitude levels are provided in **Table 10-18**, which will be refined for each effect at the preliminary assessment stage.

Table 10-18: Broad initial definition of magnitude levels

Magnitude	Initial definition
High	The Proposed Development would cause fundamental changes to the existing community environment conditions underpinning the receptor, causing a major alteration to the receptor's characteristics or features of the receptor's character or distinctiveness.

Magnitude	Initial definition
Medium	The Proposed Development would cause considerable changes to the existing community environment conditions underpinning the receptor, causing a moderate alteration to the receptor's characteristics or features of the receptor's character or distinctiveness.
Low	The Proposed Development would cause a discernible change to existing community environment conditions, causing a limited but discernible alteration to the receptor's characteristics or features of the receptor's character or distinctiveness.
Very low	The Proposed Development would cause a barely discernible change to the receptor.

Nature of effects

10.9.1.10 Additional characteristics are taken into account in the process of determining whether an effect on a receptor is significant. These include:

- Permanence, relating to whether an effect is either:
  - Temporary: its duration is limited and/or environmentally reversible
  - Permanent: it endures in perpetuity and/or is environmentally irreversible
- Duration, relating to the temporal aspect of the effect which is either:
  - Very short term: meaning the duration of effect is expected to be less than one month;
  - Short term: meaning the duration of effect is expected to be between one month and up to one year;
  - Medium term: meaning the duration of effect is expected to be between one year and up to five years;
  - Long term: meaning the duration of effect is expected to be over 5 years;

Determining significance

10.9.1.11 The significance of an effect is determined through the relationship between the sensitivity of a receptor and magnitude of impact. For the purposes of the community assessment the significance level is reflective of how a receptor experiences an environmental change. The significance levels are indicatively characterised per the description shown in **Table 10-19** below and can be defined as: major, moderate, minor, negligible or no effect. Those effects which are found to be moderate or major are deemed to be significant.

Table 10-19: Significance matrix

		Magnitude							
		High	Medium	Low	Very Low	Very Low	Low	Medium	High
Sensitivity	High	Major Adverse	Major Adverse	Moderate Adverse	Minor Adverse	Minor Beneficial	Moderate Beneficial	Major Beneficial	Major Beneficial
	Medium	Major Adverse	Moderate Adverse	Minor Adverse	Minor Adverse	Minor Beneficial	Minor Beneficial	Moderate Beneficial	Major Beneficial
	Low	Moderate Adverse	Minor Adverse	Minor Adverse	Negligible	Negligible	Minor Beneficial	Minor Beneficial	Moderate Beneficial
	Very Low	Minor Adverse	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Minor Beneficial

Assessment Methodology

10.9.1.12 The ES will set out the anticipated construction programme to establish the intensity, scale, location and timing of construction activity. The assessment of construction impacts will then relate to the programme described. **Table 10-20** indicates the broad approach to the methodology that will be undertaken for each community effect in the construction phase, while **Table 10-21** covers the operational phase.

Table 10-20: Community effects assessment methodology, construction phase

Effect	Assessment methodology
The potential temporary effect of employment generation and construction activity on the labour market and subsequently the housing market	• The existing housing market will be characterised in terms of housing supply, demand, affordability and tenure composition. The characterisation will draw on available strategic housing market assessments, the standard method for local housing need assessment, and an analysis of housing delivery trends relative to objectively assessed need at the time of assessment. • The scale and composition of the construction workforce, including the proportion of workers whose main place of residence is outside the relevant study area, will be assessed to estimate the additional accommodation demand arising during the construction phase. The **Temporary Workforce Accommodation Strategy** would provide an estimate for the non-home based workforce, a share of which may draw on the housing market for accommodation. • Disamenity measures, such as impact of noise and air quality during construction, would be qualitatively factored in to give an overall conclusion on the likely effect on house prices. • A review of comparable major infrastructure and development projects will provide evidence on the scale and nature of construction phase housing market effects observed in similar schemes to inform a qualitative aspect to the assessment.
Potential effects related to the displacement of tenants and owners of residential property across all tenures as a result of the extent of land required by the Proposed Development (both temporary and permanent land	• The number of residential properties affected by land take will be calculated with reference to the Compulsory Purchase Strategy once developed and spatial analysis as the details of the former are being finalised. • Demographic analysis of the affected residential population will be undertaken, drawing on ONS Census data and other sources set out in **Sections 10.5** and **10.9.2**. This will characterise displaced residents in terms of age, household composition, tenure, deprivation and other relevant characteristics. This analysis will inform the assessment of receptor sensitivity. • The effect of residential displacement on the net position of objectively assessed housing need will be assessed, including the consequent pressure on housing supply and delivery trajectories within the relevant assessment areas. • Transitional effects arising during the period of displacement, including the uncertainty, disruption and wellbeing impacts associated with the prospect and process of relocation, will be assessed qualitatively,

Effect	Assessment methodology
take), including transitional effects	drawing on evidence from comparable projects and informed by engagement with affected residents and community stakeholders. • The potential influence of voluntary temporary relocation and uptake of the Wider Property Offer on the nature and scale of displacement effects will be considered, including the consequent effects on tenure mix and community composition within affected community assessment areas.
Potential temporary and permanent effects on the viability, sustainability, and accessibility of all existing and planned physical community facilities and public spaces and community-facing businesses and their users within the ISA where they are displaced by the land needed for the Proposed Development	• Community facilities, public spaces and community-facing businesses within the ISA that are directly affected by land take will be identified and characterised in terms of their existing function, catchment area, attendance patterns and user base, drawing on secondary data sources and, where appropriate, engagement with operators, owners and users. • The number of residents displaced by the Proposed Development and the resulting reduction in the catchment population of affected facilities will be estimated to inform an assessment of the effect of land take on the operational viability and sustainability of those assets. • Changes in demand for community facilities and assets during construction, including both increases arising from the construction workforce and reductions arising from the loss of residents and the redistribution of communities, will be assessed across the relevant community assessment areas. • Where other environmental topic assessments identify construction phase effects that may affect the functional suitability of community assets, such as noise and vibration, air quality or traffic and transport, those findings will be drawn upon to inform the assessment of the impact on the condition and operation of affected assets. • The availability and accessibility of alternative provision during construction will be assessed for facilities where direct displacement or material change in function is anticipated. This will include consideration of journey duration and distance, mode of access and the relative convenience of alternatives for different user groups. • Where a reprovision strategy is proposed, the assessment will consider the timing and sequencing of reprovision relative to the loss of existing provision, and the resulting period over which users may be without access to an equivalent facility.

Effect	Assessment methodology
Effects on the amenity and quality of homes	• The effects of the Proposed Development on the amenity and quality of homes during construction will be assessed by drawing on the residual significant effects identified across relevant environmental topic assessments (including those addressing noise and vibration, air quality and odour, landscape and visual amenity, and traffic and transport) and examining the degree to which those effects coincide spatially and temporally with residential receptors. • Where multiple environmental effects impact on the same residential receptors, their combined effect on the quality and liveability of those homes will be characterised, having regard to the nature, duration and reversibility of the constituent effects. This analysis will reflect the approach to in-combination effects set out in the EIA methodology.
Effects on the catchment or amenity of community facilities or community-facing businesses	• Benchmarks for the catchment areas and functional amenity of community facilities and community-facing businesses will be established through a combination of secondary data analysis and engagement with facility operators, owners and representative stakeholders, drawing where available on recognised standards for facility provision at national and local level. These benchmarks will provide the reference point against which changes in catchment population and amenity conditions are assessed. • The effects of environmental changes during construction, including those relating to noise, air quality, access and visual conditions, on the amenity and attractiveness of community facilities and community-facing businesses will be assessed by drawing on the findings of the relevant topic assessments and considering their spatial and temporal relationship to identified assets.
Potential temporary and permanent effects on community cohesion and the nature of communities as a result of change in population characteristics and distribution of homes	• The existing community needs profile of each relevant community assessment area will be characterised, drawing on indicators including the Community Needs Index, the Indices of Multiple Deprivation, tenure composition, household structure, community safety data and the availability and accessibility of community facilities and public services. This characterisation will establish the baseline against which changes in community cohesion and the nature of communities are assessed. • The effects of population change during construction, including the introduction of a temporary construction workforce, on community composition, social networks and patterns of interaction will be assessed, drawing where relevant on evidence from comparable major infrastructure and development projects. • Changes to the number and distribution of residential properties, and to the tenure mix within affected community areas, will be assessed as indicators of change to communities and the consequent effect on community cohesion and resilience.

Effect	Assessment methodology
and physical facilities, including as a result of a temporary construction workforce, and at the operational phase compared with today and the future baseline	• The provision of community facilities and public services relative to changes in population during construction will be assessed against relevant benchmarks and standards, to identify where changes in provision could affect community wellbeing, social interaction and the quality of community life. • Community safety, including trends in recorded crime and perceptions of safety, will be considered as a dimension of community cohesion, drawing on available data sources and, where relevant, engagement with relevant authorities. • The assessment will engage with the parameters of the appraisal of sustainability to ensure coherence with the broader planning framework for the Proposed Development.
Effects on community cohesion and the nature of communities as a result of change in population characteristics and distribution of homes and physical facilities as result of displacement/loss of homes including uptake of the Wider Property Offer, as well as effects relating to community severance.	• The number of residential properties affected by the Proposed Development will be quantified for each relevant community assessment area. The estimated displaced population will be expressed both in absolute terms and as a proportion of the existing community area population, to characterise the relative scale of change and its likely impact on established community networks and relationships. • Existing movement patterns and routes within and between community assessment areas will be identified and characterised, drawing on data from the traffic and transport assessment, commuter flow data, and engagement with community stakeholders. This will establish the functional connectivity of communities as a baseline condition, alongside population and displacement data, against which the effects of the Proposed Development are assessed. • The community needs profile of the areas most directly affected by residential displacement and by changes to movement patterns will be assessed, with particular attention to characteristics that may heighten sensitivity to population loss and to disruption in connectivity, including levels of deprivation, the quality of social connectivity and the nature and availability of community facilities. • The effect of the Wider Property Offer on the distribution and scale of displacement will be considered, including its potential influence on the extent to which affected residents remain within their existing community areas or relocate elsewhere, and the subsequent effects on community networks and social cohesion. • The potential for the Proposed Development to interrupt or alter existing movement patterns during construction, through changes to routes, access points or the physical environment of the surrounding area,

Effect	Assessment methodology
	will be assessed drawing on the findings of the traffic and transport assessment and, where relevant, the recreation assessment. • Temporary changes to journeys will be assessed to characterise the range of community impacts, such as access to education, health and leisure, to which severance effects may restrict access. • The significance of effects on community cohesion, encompassing both displacement and severance, will be determined with reference to the sensitivity of affected communities and the magnitude of change in population and connectivity, having regard to the duration, reversibility and spatial extent of the relevant effects. • The assessment will engage with the parameters of the appraisal of sustainability to ensure coherence with the broader planning framework for the Proposed Development.
Potential temporary/permanent transitional effects on the provision of public services (where relevant) across the wider study area	• The additional demand placed on public services by the construction workforce will be assessed across the CSA, encompassing primary healthcare, accident and emergency services, and other relevant services as identified through the assessment process and stakeholder engagement. • For primary healthcare, data on general practice patient registration levels and practice capacity will be used to estimate the scale of additional demand relative to existing service provision, taking into account the size of the construction workforce and assumptions about those who may seek to register locally. • For accident and emergency services, the potential scale of additional attendances associated with construction activity will be considered with reference to available data on existing attendance levels and service capacity at relevant facilities within the CSA.

Table 10-21: Community effects assessment methodology, operational phase

Effect	Assessment methodology
The potential additional effects on the wider labour market and housing	• The characterisation of the existing housing market described for the construction phase (housing supply, demand, affordability and tenure composition, drawing on strategic housing market assessments, the standard method for local housing need assessment, and housing delivery trends relative to objectively assessed need) will provide the baseline for the operational phase assessment.

Effect	Assessment methodology
market as a result of operational employment generation	• For the operational phase, the assessment will consider additional demand for housing arising from growth in the operational workforce, having regard to assumptions about workforce scale, composition and likely places that people will live relative to existing and future housing supply. • Population growth attributable to broader economic activity generated by the Proposed Development will be treated as a driver of additional housing demand, with the inherent uncertainty in such projections addressed through the future baseline. • Disamenity measures, such as impact of noise and air quality in operation, would be qualitatively factored in to give an overall conclusion on the likely effect on house prices. • A review of comparable major infrastructure and development projects will provide evidence on the scale and nature of operational phase housing market effects observed in similar schemes to inform a qualitative aspect to the assessment.
Potential temporary and permanent effects on the viability, sustainability, accessibility, amenity, catchment and operational functionality of all existing and planned physical community facilities, public spaces and community-facing businesses and their users, including where assets	• The permanent reduction in the catchment population of affected facilities arising from residential displacement will be estimated to inform an assessment of the long term operational viability and sustainability of those assets. • Changes in demand for community facilities and assets at the operational phase, including increases arising from the operational workforce and associated population growth and reductions arising from the loss of residents and the redistribution of communities, will be assessed across the relevant community assessment areas. • Where other environmental topic assessments identify operational effects that may affect the functional suitability of community assets, such as noise and vibration, air quality or traffic and transport, those findings will be drawn upon to inform the assessment of the impact on the condition and operation of affected assets. • The availability and accessibility of alternative provision will be assessed for facilities where permanent displacement or material change in function is anticipated. This will include consideration of journey duration and distance, mode of access and the relative convenience of alternatives for different user groups. • Where a reprovision strategy is proposed, the assessment will consider the extent to which reprovisioned facilities are likely to meet the needs of affected users, having regard to location, capacity, timing and the demographic characteristics of the relevant communities.

Effect	Assessment methodology
experience associated environmental change.	
Potential permanent effects on the amenity quality, desirability and liveability of homes as a result of environmental effects on the surrounding area, including noise, vibration, air quality, odour, traffic and visual effects.	• The effects of the Proposed Development on the amenity and quality of homes during operation will be assessed by drawing on the residual significant effects identified across relevant environmental topic assessments (including those addressing noise and vibration, air quality and odour, landscape and visual amenity, and traffic and transport) and examining the degree to which those effects coincide spatially and temporally with residential receptors. • Where multiple environmental effects impact on the same residential receptors, their combined effect on the quality and liveability of those homes will be characterised, having regard to the nature, duration and reversibility of the constituent effects. This analysis will reflect the approach to in-combination effects set out in the EIA methodology.
Effects on community cohesion and the nature of communities as a result of change in population characteristics and distribution of homes and physical facilities, as well as effects	• The number of residential properties permanently lost to the Proposed Development will be quantified for each relevant community assessment area. The displaced population will be expressed both in absolute terms and as a proportion of the existing community area population, to characterise the relative scale of change and its likely impact on established community networks and relationships. • Existing movement patterns and routes within and between community assessment areas, established as a baseline through the traffic and transport assessment, commuter flow data and engagement with community stakeholders, will provide the reference point for assessing changes in functional connectivity at the operational phase. • The community needs profile of the areas most directly affected by residential displacement and by changes to movement patterns will be assessed, with particular attention to characteristics that may heighten sensitivity to population loss and to disruption in connectivity, including levels of deprivation, the quality of social connectivity and the nature and availability of community facilities.

Effect	Assessment methodology
relating to community severance	• The effect of the Wider Property Offer on the distribution and scale of displacement will be considered, including its potential influence on the extent to which affected residents remain within their existing community areas or relocate elsewhere, and the subsequent effects on community networks and social cohesion. • The potential for the Proposed Development to interrupt or alter existing movement patterns in operation, through changes to routes, access points or the physical environment of the surrounding area, will be assessed drawing on the findings of the traffic and transport assessment and, where relevant, the recreation assessment. • Permanent changes to journeys will be assessed to characterise the range of community benefits, such as access to education, health and leisure, to which severance effects may restrict access. • The significance of effects on community cohesion, encompassing both displacement and severance, will be determined with reference to the sensitivity of affected communities and the magnitude of change in population and connectivity, having regard to the duration, reversibility and spatial extent of the relevant effects.
Potential permanent effects on community cohesion and the nature of communities as a result of change in population characteristics and distribution of homes and physical facilities at the operational phase compared with today and the future baseline	• The community needs profile of each relevant community assessment area, characterised using the Community Needs Index, the Indices of Multiple Deprivation, tenure composition, household structure, community safety data and the availability and accessibility of community facilities and public services, will be used to compare the operational phase position against both the current baseline and the future baseline. • Demographic change over the longer term associated with the operational phase, and its effects on community composition, social networks and patterns of interaction, will be assessed, drawing where relevant on evidence from comparable major infrastructure and development projects. • Permanent changes to the number and distribution of residential properties, and to the tenure mix within affected community areas, will be assessed as indicators of change to communities and the consequent effect on community cohesion and resilience. • The provision of community facilities and public services relative to the changed operational phase population will be assessed against relevant benchmarks and standards, to identify where changes in provision could affect community wellbeing, social interaction and the quality of community life.

Effect	Assessment methodology
	• Community safety, including trends in recorded crime and perceptions of safety, will be considered as a dimension of community cohesion, drawing on available data sources and, where relevant, engagement with relevant authorities.

10.9.2 Additional Baseline Information Required

10.9.2.1 An initial review of baseline information has been undertaken for the purposes of scoping, however a more detailed exercise will be required to determine the baseline, future baseline, sensitivity of receptors, and magnitude of impacts with respect to the community topic. This will cover: identifying groups, users, catchments and operational requirements, as well as emerging standards, research and policy.

10.9.2.2 An indicative list of sources of additional baseline information is shown in **Table 10-22**. This list is not exhaustive and emerging data/information will be taken into account throughout the full assessment. Information sources are reported here where further collection (potentially including different spatial granularity, purpose of collection or detail and focus) is required.

Table 10-22: Additional baseline data sources to be used

Source	Data	Relevance to the assessment
Office for National Statistics (2022) Census 2021	Household composition Age Living arrangements Ethnic group Number of dwellings Occupation Qualifications	Residents Communities Homes and the housing market
Office for National Statistics (2026) Annual Population Survey	Economic activity rate Employment rate Unemployment rate Occupations Qualifications Full time / part time	Residents Communities
Office for National Statistics Business Register and Employment Survey (BRES) (2025)	Employment Industry of employment	Residents Communities
Realyse	Residential property prices and trends	Homes and the housing market

Source	Data	Relevance to the assessment
	Residential planning pipeline Accommodation type Tenure Second home status Rental values Sales transactions	
NHS Digital / NHS England	GP service level provision (GPs and patients)	Community facilities and their users
NHS England, 2026. A&E Attendances and Emergency Admissions 2026-27	Healthcare service provision	Emergency healthcare facilities including hospitals
Ministry of Housing, Communities and Local Government (2025) Indices of Multiple Deprivation	Deprivation (income, employment, education, health, crime, barriers to housing and services, living environment)	Communities
Police UK	Crime	Communities
Land Registry	Property	Residents Homes and the housing market Communities
Valuation Office Agency	Property	Residents Homes and the housing market Communities
Hillingdon Strategic Housing Market Assessment (SHMA) (2025)	Local housing need	Homes and the housing market
Hillingdon Strategic Infrastructure Plan (2017)	Infrastructure and community connectivity	Communities

Source	Data	Relevance to the assessment
Hillingdon Employment Land and Capacity Study (2023)	Local employment need	Residents Communities
Hounslow Local Housing Needs Assessment Update (LHNA) (2024)	Local housing need	Homes and the housing market
Hounslow Employment Land Review Update (2020)	Local employment need	Residents Communities
Ealing Local Housing Needs Assessment Update (2022)	Local housing need	Homes and the housing market
Ealing Infrastructure Delivery Plan (2024)	Infrastructure and community connectivity	Communities
Royal Borough of Windsor and Maidenhead Local Housing Needs Assessment (2019)	Local housing need	Homes and the housing market
Royal Borough of Windsor and Maidenhead Infrastructure Delivery Plan (2019)	Infrastructure and community connectivity	Communities
Buckinghamshire Local Housing Needs Assessment (2025)	Local housing need	Homes and the housing market
Buckinghamshire Infrastructure Delivery Plan (2019)	Infrastructure and community connectivity	Communities
Runnymede Housing and Economic Development Needs Assessment (2026)	Local housing need Local employment needs	Homes and the housing market Communities
Runnymede Infrastructure Delivery Plan (2019)	Infrastructure and community connectivity	Communities
Spelthorne Strategic Housing Market Assessment (2025)	Local housing need	Homes and the housing market
Spelthorne Infrastructure Delivery Plan (2024)	Infrastructure and community connectivity	Communities

Source	Data	Relevance to the assessment
Elmbridge Local Housing Needs Assessment (2020)	Local housing need	Homes and the housing market
Elmbridge Employment Land Review (2025)	Local employment need	Residents Communities
Richmond Upon Thames Employment Land and Premises Needs Assessment Update (2023)	Local employment need	Residents Communities
Richmond Local Housing Assessment Update (2023)	Local housing need	Homes and the housing market

Future baseline

10.9.2.3 The point in time at which the anticipated community effects relating to the Proposed Development would occur is different to the point of assessment and/or the year for which data is available to characterise current conditions. To conduct a more realistic assessment, a future baseline is established so the receptors at the point at which an effect would occur are better understood and their sensitivity at that point is determined. The future baseline has two components: the receptors and the characteristics that determine their sensitivity.

10.9.2.4 The sources above will also be used to characterise the future baseline insofar as they contain robust information about the relevant receptors at the future assessment years. Only receptors that exist at the time at which an effect occurs will be considered to comprise part of the future baseline. This includes the addition and omission of receptors compared against those currently identified. An assessment of a community effect on a receptor is only undertaken in the phase in which the effect occurs on it/them, which may be in multiple phases.

10.9.2.5 Additional sources of information about the future baseline will be derived from:

- Population forecasts;
- Planning and development pipeline;
- Housing and employment needs evidence and assessments, infrastructure delivery plans; and
- Economic modelling undertaken and underpinning assumptions in relation to the Proposed Development.

10.9.2.6 There may not always be sufficiently robust information about future baseline conditions and/or existence of receptors in future. This is especially true when the receptor type is dynamic (such as the housing market). Where there is uncertainty, the assessment will transparently describe the impact of that uncertainty and what

has been assumed in order to reach a reasonable worst case conclusion. **Table 10-23** provides an initial indication of how a reasonable worst case would be developed. A more complete list will be developed with the approach agreed with HSPG.

Table 10-23: Use of future baseline and indicative worst case assessment in community assessment

Receptor group	Future baseline	Examples worst case to be defined in the assessment
Residents	Existing baseline Population growth Displaced/lost residences	Population growth: • Low growth (reasonable worst case): housing delivery underperforms against standard method need trajectory • Central growth: resident population grows in line with Office for National Statistics (ONS) sub-national projections and Local Plan allocations • High growth: population growth substantially exceeds ONS projections
Homes and housing market	Existing baseline Housing need Housing delivery trends Displaced residences	Housing delivery: • Low delivery (reasonable worst case): housing delivery substantially underperforms against the standard method need assessment trajectory • Central delivery: housing delivery broadly tracks Local Plan targets and the standard method need • High delivery: housing delivery accelerated substantially
Public services and users/beneficiaries of those services	Existing baseline Displaced assets	• Constrained NHS capacity (reasonable worst case) • Managed growth/digitalisation of health

10.9.3 Cumulative Effects

10.9.3.1 The community assessment will take into account cumulative effects. Cumulative effects refer to those effects whereby the aggregate of multiple scheme elements beyond the Proposed Development (Stage 1) or in relation to other schemes (Stage 2) could lead to different effects to those reported in the main assessment. In-combination effects relate to those effects that are caused by the interrelationship of different environmental effects within the Proposed

Development and will be reported in **Chapter 24: Cumulative and In-combination Effects**.

10.9.3.2 Taking a proportionate approach to cumulative assessment is also related to the treatment of a future baseline because the latter includes in part the former i.e. projections of the future account for the fact that development will occur. This occurs through for example residential development that implies larger populations via development in the vicinity or related to the Proposed Development.

10.9.3.3 Cumulative effects will be considered based on consideration of whether the following principles pertain to the longlist of cumulative schemes that will necessarily be sifted to ensure proportionality:

- there is an overlapping boundary of the scheme (spatial agreement) (Stage 1);
- the scheme is located in the same community assessment area as the effect scale (Stage 1);
- the scheme is sufficiently progressed to represent a likely interaction referencing Tiers 1 – 3 of scheme certainty set out by the Planning Inspectorate (Stage 1);[35]
- there is temporal overlap (Stage 2);
- the scale/nature is notable enough to represent a change that would not be captured by future baseline i.e. it is hyperlocal/unique such as a community receptor (and would not be captured by forecasts) or large enough to disturb the forecast (Stage 2)
- there is sufficient information about the scheme to lead to a meaningful assessment (Stage 3); and
- the scheme is of the same type/sufficient similarity to the receptor group (proportionality).

10.9.4 In-Combination Effects

10.9.4.1 In-combination effects have the potential to arise where environmental effects of the Proposed Development interact with each other such that the effect is different to an environmental effect happening in isolation. Potential in-combination effects will be assessed based on consideration of principles guiding cumulative effect assessment with the intention of providing proportionate and meaningful assessment only for potentially significant effects. This includes potential in-combination effects that arise across chapters (see **Table 10-12**). Therefore, the following criteria to describe significance in this regard will be taken into account to determine whether an in-combination effect assessment should be considered: duration of effect, extent of effect, type of effect, frequency, value and resistance of the receptor and likely success of mitigation.[36]

[35] Planning Inspectorate, 2026. Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment.
[36] Planning Inspectorate, 2026. Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment.

10.9.4.2 In-combination effects will be considered only where relevant over and above those pathways that already consider how environmental topics interact such as those relating to amenity.

10.9.4.3 An indicative sifting exercise for the relevant topic effects to be taken into account for the assessment of in-combination effects is shown in **Table 10-24**, where a '✓' means it would be considered, a 'X' means it won't, and a ? means it is under review as the assessment develops. This will remain under review as more detailed assessments are undertaken at preliminary assessment stage.

Table 10-24: Relevant topic effects to be considered for assessment of in-combination effects

Activity	Economics and Employment	Health	Recreation	Traffic and Transport	Major Accidents and Disasters	Noise and Vibration	Air Quality and Odour	Landscape and Visual Amenity
Temporary construction workforce and supply chain	✓	✓	?	?	X	?	?	?
Displacement/loss or other change to homes, community facilities and community facing businesses as a result of land use change	✓	✓	✓	✓	?	✓	✓	✓
Population and demographic change, including changes to communities, and the way they connect and move	✓	✓	✓	✓	X	?	?	✓
Planning for placemaking and meeting community needs	✓	✓	?	?	X	✓	✓	?

10.9.5 Limitations and Assumptions

10.9.5.1 The availability of up-to-date accessible data presents a potential limitation to the assessment of the community baseline and receptor sensitivity within the community assessment. The latest data available at the time of assessment will be utilised. Official national statistics will be prioritised where possible. Baseline data will continue to be updated prior to submission of ES.

10.9.5.2 The future baseline with respect to population and economic changes relies on publicly available forecasts. There are well-documented limitations relating to the use of economic projections, predominantly in relation to accounting for changes in the economy. These types of projections rely on a set of national macroeconomic assumptions that are taken as a starting point, with forecasts apportioned to regional and local authority levels following analysis of the existing economic composition of an area. This methodology means that forecasts do poorly in reacting to significant shocks to the economy. Furthermore, data limitations at the local authority level make it difficult for these top down forecasts to accurately account for local factors that have an impact on population and employment growth beyond the local authority level. These forecasts are considered best practice for analysing future trends in baseline conditions, however, as it is widely acknowledged that they are helpful in indicating the approximate scale and direction of future population and employment growth.

10.10 Proposed Approach to Mitigation

10.10.1.1 Mitigation will be considered in three broad stages: primary, secondary and tertiary mitigation.

- Primary mitigation means measures built into the design of the Proposed Development from the outset. This may include changes to the location, layout, phasing or construction approach to avoid or reduce negative effects before they arise.
- Secondary mitigation means additional measures introduced to reduce effects that cannot be fully designed out. These measures are usually developed through the assessment process and may include management plans, targeted support for affected businesses, or measures to reduce construction disruption.
- Tertiary mitigation means standard controls that are expected to be implemented as a matter of good practice or legal requirement. This may include measures secured through the Draft Code of Construction Practice, planning conditions, environmental permits or other established regulatory controls.

10.10.1.2 The first approach is to avoid or reduce negative impacts by changing the design of the Proposed Development itself. Where an impact cannot be designed out, specific measures are introduced to manage and offset it. The assessment of impacts will be made on the basis that these embedded mitigation measures are in place.

10.10.1.3 The initial assessment will take account of primary mitigation built into the Proposed Development and tertiary mitigation provided through standard controls. Where a likely significant effect is identified, secondary mitigation will be considered and the effect remaining after those measures, the residual effect, will be assessed. Mitigation measures will be refined through consultation with local stakeholders, businesses and authorities so that they respond to local circumstances.

10.10.1.4 Some practical measures that may be considered include:

- Providing and maintaining suitable alternative routes where works temporarily restrict access to services or facilities.
- Sequencing works, where feasible, to limit the concurrent closure of alternative routes and the duration of individual closures.
- Improving routes where temporary diversions or permanent works provide a deliverable opportunity to do so, for example through better surfacing, signage or crossings.
- Re-providing displaced community facilities and recreational assets where practicable, with regard to their function, accessibility and continuity of use.
- Providing proportionate relocation support for people and organisations directly affected by land acquisition or displacement.

10.10.1.5 In addition to the environmental topics that form part of the ES, a range of supplementary assessments and mitigation strategies will be prepared which will inform the assessment of effects for the Community chapter. Key documents associated with the economics and employment assessment that form part of the DCO submission are listed below, and mitigation measures suggested as part of these documents will be referred to in this chapter where relevant:

- Temporary Workforce Accommodation Strategy: to assess and manage accommodation needs, including potential pressure on the private rented sector and tourism accommodation.
- Employment and Skills Strategy: to set out the approach to local recruitment, supply chain engagement, apprenticeships and training. This is principally a means of increasing local benefits, rather than mitigating an adverse effect.
- Construction Code of Practice: to establish construction working practices and controls for matters including noise, dust, lighting, working hours, complaints and community liaison.
- Travel Plan: to manage workforce travel demand, including measures to reduce single-occupancy vehicle trips.
- Surface Access Strategy: to manage effects on roads, public rights of way and other routes used to access services and facilities, including the identification and communication of closures and diversions.
- Community Engagement Plan: to set out how communities will receive information, contact the project team, raise complaints and receive responses.
- Property and Compensation Policy: to set out the proposed approach to people and organisations affected by land acquisition or displacement, including property offers, relocation support and consideration of displaced community facilities.

10.11 Summary

Table 10-25: Elements scoped in/out of Community assessment

Discipline	Scoped In Elements	Scoped Out Elements
Community	Construction • The potential temporary effect of employment generation and construction activity on the labour market and subsequently the housing market • Potential effects related to the displacement of tenants and owners of residential property across all tenures as a result of the extent of land required by the Proposed Development (both temporary and permanent land take), including transitional effects • Potential temporary and permanent effects on the viability, sustainability, and accessibility of all existing and planned physical community facilities and public spaces and community-facing businesses and their users within the ISA where they are displaced by the land needed for the Proposed Development • Effects on the amenity and quality of homes • Effects on the catchment or amenity of community facilities or community-facing businesses • Potential temporary and permanent effects on community cohesion and the nature of communities as a result of change in population characteristics and distribution of homes and physical facilities, including as a result of a temporary construction workforce, and at the operational phase compared with today and the future baseline	No effects are proposed to be scoped out at this stage.

Discipline	Scoped In Elements	Scoped Out Elements
	• Effects on community cohesion and the nature of communities as a result of change in population characteristics and distribution of homes and physical facilities as result of displacement/loss of homes including uptake of the Wider Property Offer, as well as effects relating to community severance. • Potential temporary/permanent transitional effects on the provision of public services (where relevant) across the wider study area Operational • The potential additional effects on the wider labour market and housing market as a result of operational employment generation • Potential temporary and permanent effects on the viability, sustainability, accessibility, amenity, catchment and operational functionality of all existing and planned physical community facilities, public spaces and community-facing businesses and their users, including where assets and associated environmental change. • Potential permanent effects on the amenity quality, desirability and liveability of homes as a result of environmental effects on the surrounding area, including noise, vibration, air quality, odour, traffic and visual effects. • Effects on community cohesion and the nature of communities as a result of change in population characteristics and distribution of homes and physical facilities, as well as effects relating to community severance	

Discipline	Scoped In Elements	Scoped Out Elements
	• Potential permanent effects on community cohesion and the nature of communities as a result of change in population characteristics and distribution of homes and physical facilities at the operational phase compared with today and the future baseline.	

Environmental Impact Assessment Scoping Report

Chapter 11

Economics and Employment

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11 Economics and Employment

11.1 Introduction

11.1.1.1 This Chapter of the Environmental Impact Assessment (EIA) Scoping Report has been prepared by Volterra Partners LLP and sets out the likely significant effects on economics and employment produced by the Proposed Development.

11.1.1.2 The Economics and Employment Assessment will identify potential effects from the Proposed Development on businesses, employment, skills and the labour market, and the wider economy.

11.1.1.3 The effects in this Chapter interact strongly with the effects in the following chapters insofar as they reflect 'population and human health' effects that are required to be assessed by EIA regulations:

- **Chapter 10: Community** –assesses the likely potential significant effects of the Proposed Development with respect to community receptors. This includes effects on residents and their homes, community facilities and their users, and public services and their users.
- **Chapter 12: Recreation** –assesses the likely potential significant effects of the Proposed Development on recreation receptors, including effects on recreational routes and spaces and the people who use them.
- **Chapter 14: Health and Wellbeing** –assesses the likely potential significant effects of the Proposed Development on health receptors, including the physical and mental health and wellbeing of people.

11.1.1.4 The Chapter should be read in conjunction with the scoped effects of those chapters as the authors have aligned the assessments to ensure the reporting of effects across topic chapters is proportionate and focused. Reference to those chapters will be made where relevant throughout. **Table 10.12** in **Chapter 10: Community** provides more detail on the differing effects covered in each chapter.

11.2 Policy, Legislation and Guidance

11.2.1.1 This Section identifies the relevant topic specific policies that have informed the scope. Further information on the policies relevant to the EIA and their status is set out in **Section 1.9** which should be read in conjunction with this Chapter.

Table 11-1: Policy Relevant to the Economics and Employment Assessment

Relevant Policy	Relevance to Assessment
Policy – National	
Draft Heathrow Expansion National Policy Statement (2026)[1]	The Heathrow Expansion National Policy Statement (2026) will replace the Airports National Policy Statement, once designated. This document provides the primary policy framework against which the Proposed Development will be examined, including updated tests for economic growth, climate change, noise and air quality. This document requires the Applicant to evidence the national economic case, including GDP, employment, trade and connectivity impacts, and to demonstrate that benefits are spread across UK regions, not only London and the South East. It further requires scenario-based appraisal of wider economic impacts over the lifetime of the development. In reviewing those policy documents, HAL's associated DCO application is also considered, for which a Scoping Addendum was submitted to PINS in September 2025 and a Scoping Opinion received in October 2025. The matters raised in HAL's 2025 Scoping Opinion have been taken into account in preparing the proposed approach to the assessment of economics and employment related effects, where relevant to the Proposed Development.
Airports National Policy Statement (ANPS) (2018)[2]	The existing designated NPS that the HENPS is intended to replace is still important as the starting point for government policy on runway capacity in the South East and the economic rationale for selecting a northwest runway at Heathrow. This document sets expectations for analysis of GDP, employment, supply-chain effects and connectivity, and embeds commitments around apprenticeships and skills, which remain relevant in testing Heathrow's socio-economic offer. Provides a benchmark for continuity and change in the government's view of the economic case.

[1] Department for Transport 2026. Draft Heathrow Expansion National Policy Statement. Published [Month] 2026. Available at: Draft HENPS - GOV.UK (accessed on: 18/08/2028).
[2] Department for Transport 2018. Airports National Policy Statement: new runway capacity and infrastructure at airports in the South East of England. Published June 2018. Available at: https://www.gov.uk/ (accessed on: 18/08/2028).

Relevant Policy	Relevance to Assessment
National Networks National Policy Statement (NN NPS) (2024)[3]	Governs strategic road and rail schemes that will support Heathrow expansion, such as M25 alterations and any rail enhancements. Emphasises that national networks must "support a prosperous and competitive economy" and provide capacity and connectivity to facilitate growth and jobs. For the socio-economic assessment, NN NPS underpins the valuation of surface access benefits: labour market expansion, reliability improvements, business travel time savings and freight efficiency gains that flow from better access to the airport.
Flightpath to the Future: a strategic framework for the aviation sector (2022)[4]	Published under a previous government, this document remains the strategic framework for the aviation sector, supporting the Department for Transports (DfT) vision for a modern, innovative and efficient system over the next ten years. It is relevant to Heathrow because it supports growth in airport capacity where justified, while focusing on innovation, user benefits and sustainable recovery. It also links aviation growth to trade, global connectivity and workforce development, which helps frame the economic case and the labour market implications of expansion.
Jet Zero Strategy: Delivering net zero aviation by 2050 (2022)[5]	This is the principal aviation decarbonisation framework and is relevant because Heathrow's economic case must be consistent with the pathway to net zero aviation by 2050. It matters for the economics and employment assessment because it affects the credibility of long-run growth assumptions, the cost of mitigation, and the risk that climate policy constrains demand or requires additional investment in cleaner operations and fuels.
National Planning Policy Framework (2026)[6]	Provides the overarching national planning policy for England, defining the economic role of development as building a strong, responsive and competitive economy by providing land and infrastructure for growth. Requires plans and decisions to consider business needs, employment land, access to jobs and productivity, and to integrate

[3] Department for Transport 2024. National Networks National Policy Statement. Published March 2024. Available at: https://www.gov.uk/ (accessed on: 18/08/2026).
[4] Department for Transport 2022. Flightpath to the future: a strategic framework for the aviation sector. Published May 2022. Available at: https://www.gov.uk/ (accessed on: 18/08/2026).
[5] Department for Transport 2022. Jet Zero Strategy: Delivering net zero aviation by 2050. Published July 2022. Available at: https://www.gov.uk/ (accessed on: 18/08/2026).
[6] Ministry of Housing, Communities and Local Government 2026. National Planning Policy Framework. Published August 2026. Available at: https://www.gov.uk/ (accessed on: 18/08/2026).

Relevant Policy	Relevance to Assessment
	economic, social and environmental objectives. The socio-economic assessment should show how Heathrow expansion supports National Planning Policy Framework (NPPF) aims: long-term growth, high-quality jobs, town and city prosperity and alignment with climate and environmental objectives. Whilst the NPPF is not part of the statutory decision-making framework for NSIPs, it can be considered an important and relevant matter.
The UK's Modern Industrial Strategy, Department for Business and Trade, (June 2025)[7]	An approved 10-year strategy designed to raise business investment in the sectors most important to future growth. It identifies stronger, safer and more sustainable economic growth as the Government's central objective, with faster infrastructure delivery and improved access to skills and talent presented as important ways to achieve it.
UK Infrastructure: A 10 Year Strategy (June 2025)[8]	An approved 10-year strategy setting out how infrastructure investment will support the Industrial Strategy. It links infrastructure delivery to the Government's wider aims for economic growth and higher living standards across the UK and identifies aviation capacity as a constraint to be addressed, including support for a third runway at Heathrow.
Policy – Regional	
The Draft London Plan (2026)[9]	Will set London's updated strategic spatial and economic framework once adopted, including Heathrow's role in the capital's economic geography. Identifies functional economic areas, growth corridors and industrial and logistics locations relevant to Heathrow and its hinterland. Guides assessment of regional employment impacts, sectoral effects (aviation, logistics, tourism, business services and industrial land), and the distribution of benefits and costs across London boroughs. Also relevant to testing whether expansion supports "good growth", including inclusive employment, skills development and high-quality place-making around the airport. Policy GLE9 (Aviation) states that proposals for expansion at Heathrow "should be

[7] Department for Business and Trade 2025. The UK's Modern Industrial Strategy. Published June 2025. Available at: https://www.gov.uk/ (accessed on: 18/08/2026).
[8] HM Treasury 2025. UK Infrastructure: A 10 Year Strategy. Published June 2025. Available at: https://www.gov.uk/ (accessed on: 18/08/2026).
[9] Greater London Authority 2026. Draft London Plan. Published July 2026. Available at: https://www.london.gov.uk/ (accessed 24/08/2026)

Relevant Policy	Relevance to Assessment
	refused unless no unacceptable environmental, transport, and congestion impacts are demonstrated." This strict threshold is directly relevant to the assessment of economic and employment impacts.
The London Plan (2021)[10]	The adopted strategic spatial and economic framework for London, carrying full statutory weight until any successor plan is confirmed. Identifies functional economic areas, growth corridors and industrial and logistics locations relevant to Heathrow and its hinterland. Guides assessment of regional employment impacts, sectoral effects (aviation, logistics, tourism, business services and industrial land), and the distribution of benefits and costs across London boroughs. This is also relevant to testing whether expansion supports "good growth", including inclusive employment, skills development and high-quality place-making around the airport. As the current adopted plan, it remains the primary policy reference against which proposals will be assessed.
Policy – Local	
Hillingdon Local Plan Part 1 (2012) and Part 2 (2020)[11]; Hounslow Local Plan (2015)[12] and Reg 19 Local Plan (2026);[13] Ealing New Local Plan (2022);[14] Windsor and Maidenhead Local Plan (2022);[15] Buckinghamshire Draft Local Plan for Buckinghamshire	Local plans are the statutory land use framework for each borough or district surrounding Heathrow. They designate employment land, set housing trajectories, identify regeneration areas and define the policy envelope within which development proposals are assessed. These documents provide the context for understanding the supply of employment land available to accommodate expansion-related growth; the extent to which local labour markets and housing capacity can absorb new demand without displacing existing uses; and the cumulative land use pressures that expansion may intensify or relieve. They also establish the spatial boundaries and development

[10] Greater London Authority 2026. The London Plan. Published March 2021. Available at: https://www.london.gov.uk/ (accessed 24/08/2026)
[11] Hillingdon Council 2012. Hillingdon Local Plan: Part 1 - Strategic Policies and Part 2 - Development Management Policies. Published November 2012. Updated January 2020. Available at: https://www.hillingdon.gov.uk/local-plan (accessed on: 20/08/2026).
[12] London Borough of Hounslow 2015. Hounslow Local Plan 2015-2030. Published September 2015. Available at: https://www.hounslow.gov.uk/info/20167/local_plan/1108/local_plan (accessed on: 20/08/2026).
[13] London Borough of Hounslow 2024. Hounslow Local Plan 2020-2041. Published July 2024. Available at: https://www.hounslow.gov.uk/ (accessed on: 21/09/2026).
[14] Ealing Council 2022. Ealing's New Local Plan. Published November 2022. Available at: https://www.ealing.gov.uk/info/201164/local_plan/3041/new_local_plan (accessed on: 20/08/2026).
[15] Royal Borough of Windsor and Maidenhead 2022. Borough Local Plan 2013-2033. Published February 2022. Available at: https://www.rbwm.gov.uk/ (accessed on: 20/08/2026).

Relevant Policy	Relevance to Assessment
(2026);[16] Buckinghamshire Minerals and Waste Local Plan 2016-2036 (2019);[17] Runnymede Local Plan (2020);[18] Spelthorne Local Plan (2026);[19] Elmbridge Core Strategy (2011) and Development Management Plan (2015);[20] Slough Core Strategy Development Plan;[21] Richmond Upon Thames Local Plan (2025);[22] South Bucks Local Plan (1999);[23] and Surrey Minerals and Waste Plan 2029 to 2044.[24]	constraints relevant to defining the functional economic market area used in the socio-economic assessment.
Local Economic Strategies	Local economic strategies articulate local priorities for jobs, skills, sector development and regeneration in areas around Heathrow. These documents provide the context for assessing the alignment of Heathrow expansion with local growth priorities; the scale and type of local employment

[16] Buckinghamshire Council 2026. Draft Local Plan for Buckinghamshire. Published July 2026. Available at: https://www.buckinghamshire.gov.uk/ (accessed on: 20/08/2026).
[17] Buckinghamshire County Council 2019. Buckinghamshire Minerals and Waste Local Plan 2016-2036. Available at: https://media.buckinghamshire.gov.uk/
[18] Runnymede Borough Council 2020. Runnymede 2030 Local Plan. Published July 2020. Available at: https://www.runnymede.gov.uk/planning-policy/runnymede-2030-local-plan (accessed on: 20/08/2026).
[19] Spelthorne Borough Council 2026. Spelthorne Local Plan 2024-2039/40. Published March 2026. Available at: https://www.spelthorne.gov.uk/article/20340/Local-Plan (accessed on: 20/08/2026).
[20] Elmbridge Borough Council 2011. Elmbridge Core Strategy and Local Plan Development Management Plan. Published July 2011. Updated April 2015. Available at: https://www.elmbridge.gov.uk/ (accessed on: 20/08/2026).
[21] Slough Borough Council 2008. Slough Local Development Framework Core Strategy 2006-2026. Published December 2008. Available at: https://www.slough.gov.uk/ (accessed on: 20/08/2026).
[22] London Borough of Richmond Upon Thames, 2025. Richmond Upon Thames Local Plan 2024-2039. Published October 2025. Available at: https://www2.richmond.gov.uk/ (accessed on: 21/09/2026)
[23] South Bucks District Council 1999. South Bucks Local Plan. Published March 1999, Consolidated September 2007 and February 2011. Available at: https://media.buckinghamshire.gov.uk/ (accessed on: 21/09/2026)
[24] Surrey County Council 2026. The New Minerals and Waste Local Plan. Available at: https://www.surreycc.gov.uk/. (accessed on: 21/09/2026)

Relevant Policy	Relevance to Assessment
	and skills opportunities; and the potential for displacement or crowding-out of other activities.

Table 11-2: Guidance Relevant to the Economics and Employment Assessment

Relevant Guidance	Relevance to assessment
Guidance – National	
Homes and Communities Agency (2014) Additionality Guide[25]	The Additionality Guide provides best practice methodology for estimating additionality of economic impacts. Whilst the Ministry of Housing, Communities and Local Government (MHCLG) (2025) Appraisal Guide supersedes it, the Additionality Guide goes into more detail.
MHCLG (2025) Appraisal Guide[26]	The Appraisal Guide sets out the Government's guidance on the appraisal of place-based interventions, including the assessment of employment, productivity and land value effects. It provides the current benchmark framework for considering additionality, displacement and multiplier effects in the appraisal of development proposals and has been considered alongside the HCA Additionality Guide (2014).
Fields in Trust (2014) Guidance on Outdoor Play and Sport:[27]	The Fields in Trust ('FiT') guidance sets out benchmark quantity and accessibility standards for outdoor sport, play and informal open space. These benchmarks inform the assessment of open space and play space provision within this Chapter.

11.3 Stakeholder Engagement

11.3.1.1 Care will be taken to ensure all key stakeholders with views and concerns regarding economics and employment have the evidence and opportunity to discuss and agree on the details of the assessment in a meaningful and inclusive manner. This will include local authorities that form the Core Study Area as outlined in **Table 11-3**, and bodies that represent key receptor groups as defined in **Table 11-10** such as airlines, to understand the importance of introducing competition at the airport and the economic implications for route networks and

[25] Homes and Communities Agency 2014. Additionality Guide. Available at: https://www.gov.uk/ (accessed on 18/08/2026)
[26] Ministry of Housing, Communities and Local Government 2025. The MHCLG Appraisal Guide. Available at: https://www.gov.uk/ (accessed on 24/08/2026)
[27] Fields in Trust 2014. Guidance for Outdoor Sport and Play. Available at: https://www.dorsetcouncil.gov.uk/ (accessed on 24/08/2026)

connectivity; providers of employment and skills, to understand local delivery capacity and the targets they are working to meet; and other relevant parties to be confirmed as the assessment develops.

11.3.1.2 Extensive engagement was previously undertaken between April 2019 and December 2019 in relation to previous proposals for the Heathrow West scheme. Whilst the scheme has progressed, some fundamental points raised remain relevant, such as:

- The importance placed by respondents on reducing the number of Compulsory Purchase Orders (CPOs) required to deliver the scheme;
- The weight given by respondents and stakeholders to taking account of the views of local communities in scheme design;
- The need for transparency in the use of professional judgement within the assessment, with clear explanation given for the methodology adopted wherever a gap in the evidence base exists;
- The approach to construction workforce accommodation, and specifically the need to minimise reliance by non-home-based construction workers on the most constrained parts of the local private housing market;
- The case for a clear Employment and Skills Strategy, setting out how opportunities arising from the scheme would be captured by, and maximised for, local communities; and
- The need for displacement and multiplier assumptions used in assessing employment effects to be explicit and justified, rather than embedded in a proprietary model.

11.3.1.3 Further to the above engagement, a meeting was held with the Council for the Independent Scrutiny of Heathrow Airport (CISHA) on 30th July 2026 to discuss the importance of how community stakeholders are embedded in the approach to assessment of key documents, including the economics and employment assessment. A future topic deep dive on economics and employment will be held with CISHA to discuss the approach to this assessment.

11.4 Study Area

11.4.1 Study Area

11.4.1.1 Multiple study areas are presented in **Table 11-3** that together inform the full extent of the assessment area for economics and employment. Study areas will be kept under review as the design and consultation processes progress, and the Proposed Development is refined and related topic assessment study areas are confirmed. The Inner Study Area (ISA) would be used to assess economic effects that relate to a local level. The definition of Wider Study Areas follows the MHCLG Planning Practice Guidance on Housing and Economic Development Needs Assessments, which recommends analysis by 'Functional Economic Market Areas', relatively self-contained labour market and business areas shaped by administrative boundaries and travel-to-work patterns.

Table 11-3: Study Areas

Study Areas	Geography	Relevance to the assessment
ISA	A series of 21 local geographies: Bedfont, Brands Hill, Colnbrook, Cranford, Cranford Cross, Feltham North, Harlington, Harmondsworth, Hayes, Heston, Hounslow (West and Heath), Iver and Richings Park, Longford, North Staines, Poyle, Sipson, Stanwell and Stanwell Moor, West Drayton, Horton and Wraysbury, and Langley. These areas are shown in **Figure 10.1**, with individual community areas (CAs) defined using output area statistical geographies which are set out in **Appendix 10.1**.	The ISA is defined by the physical extent of all Community Areas (CAs) as defined in **Chapter 10: Community** and therefore broadly corresponds with the land potentially required for the Proposed Development. It relates to the aggregate of direct effects likely to be experienced at a very local scale within the respective CAs, including displacement and severance arising from land use changes and/or CPO requirements, changes to access, and disturbance and amenity impacts associated with other environmental effects, such as noise and vibration, air quality (dust), traffic and visual change. This assessment area also aligns with the local scale for considering social and economic effects under the HENPS. The ISA is subject to further refinement as the scheme design evolves.
Local Town Centres	Town Centres (as defined by Draft London Plan classification and consideration of settlement hierarchies within the respective Local Plans) that intersect with the EIA Scoping Boundary. This consists of major town centres, rather than neighbourhood areas. As of the current EIA scoping boundary, this would consist of the following town centres: Hayes, Southall, Feltham, Staines, West Drayton and Hounslow. These centres can be seen in **Figure 11.1**.	This geography would be used to assess the effect of the Proposed Development on the vitality and viability of town centres that are expected to have the greatest potential for significant effects as a result of the Proposed Development. The town centres included in the Study Area are subject to further refinement as the scheme design evolves.

Study Areas	Geography	Relevance to the assessment
Core Study Area	The following ten local authority areas: London Borough of Hillingdon; London Borough of Hounslow; London Borough of Ealing; London Borough of Richmond Upon Thames; Slough Borough Council; The Royal Borough of Windsor and Maidenhead; Buckinghamshire Council; Runnymede Borough Council; Spelthorne Borough Council; and Elmbridge Borough Council. This Study Area is presented in **Figure10.2**.	The Core Study Area (CSA) is used to capture economic and employment effects that are relevant to receptors, or can be measured, at the local authority level, such as employment and skills provision. At this stage, the CSA is defined by reference to all boroughs that contain communities within the ISA or are members or participants of the Heathrow Strategic Planning Group.[28] The CSA definition will be reviewed as the scheme design and boundary are refined. At ES stage, local authorities where the Proposed Development is not expected to give rise to measurable local authority-level socio-economic effects, will be removed from the CSA.
Regional	London and the South East. This Study Area is presented in **Figure 10.3.**	Inclusion of the regional study area per HENPS guidance informs comparison of the relative significance of local effects versus regional benchmarks/characteristics and sensitivities.
Heathrow Construction Commuting Area (HCCA)	The principal area that characterises where the construction workforce of the Proposed Development live.	Used to assess effects related to the construction workforce; this will be influenced by assumptions about the scale of employment demand, the likely accommodation and travel patterns of workers, and the extent to which workers are drawn from the local labour market or taking temporary accommodation, and any management strategies to be developed around workforce logistics and accommodation to inform the ES. This would be developed in alignment with the traffic and transport assessment.
Heathrow Operational	The principal area which characterises where the	The HOCA is expected to consist of the CSA, plus other relevant geographic areas

[28] Unitary authorities and boroughs as of the time of writing in September 2026. Should there be a change to local authorities as a result of local government reorganisation or otherwise, the CSA will continue to be formed by the area that is represented by this set of local authorities.

Study Areas	Geography	Relevance to the assessment
Commuting Area (HOCA)	people who work at the Proposed Development will live.	from which a portion of the operational workforce is drawn, such as the London Borough of Richmond upon Thames. It is used to assess the effects on the operational workforce and the subsequent impacts on the housing market. These assessments will be informed by assumptions about the scale of employment demand, workforce availability, and the likely commuting patterns of workers accessing job opportunities at the Proposed Development. Existing commuting patterns to Heathrow Airport, as well as anticipated future trends, will also be taken into account. This would be developed in alignment with the traffic and transport assessment.
National	England / United Kingdom	Inclusion of the national study area per draft HENPS guidance informs comparison of the relative significance of local effects versus national benchmarks/characteristics and sensitivities.

11.4.1.2 The study areas used in other EIA topics are also of relevance and will inherently be used throughout the assessment of economics and employment effects where the findings of other environmental assessments are drawn from.

11.5 Sources of Data used in Scoping

11.5.1.1 The scoping of economics and employment effects has been informed by a review of data sources relevant to receptors within the Study Areas. These sources have been used to perform an initial appraisal of the existing and future baseline, understand current economic and employment conditions, and determine the likely scope of potentially significant effects requiring further assessment.

11.5.1.2 Whilst the existing baseline sets out current conditions within the Study Areas, the future baseline assesses a projection of future conditions without the Proposed Development, based on available information on future plans and knowledge of historic land uses.

11.5.2 Baseline Sources

11.5.2.1 The data used to inform the scope of assessment is summarised in **Table 11-4**. The sources are referenced as and when referred to in the text in **Section 11.6**.

Table 11-4: Data sources used for Scoping

Source	Data	Relevance to the Assessment
Office of National Statistics	Census (2011) and (2021) Annual Population Survey (2025) Business Register and Employment Survey (BRES) (2024) Trends in UK business dynamism and productivity (2025)	Used to build a highly granular baseline of local communities. The Annual Population Survey data allows us to compare local economic activity, employment, and age-disaggregated unemployment trends against regional and national benchmarks.
Office for Budget Responsibilities	Economic and Fiscal Outlook (November 2025) productivity and potential output forecasts.	Establishes the national macroeconomic context. We use this to outline the baseline productivity challenges and GDP growth trajectories facing the UK economy.
Construction Industry Training Board (CITB)	Construction Workforce Outlook (forecasts from 2026 to 2030).	Provides forecasts on the growth and recruitment needs of the UK construction workforce. This helps us assess the wider capacity of the labour market during the construction phase.
Further Education Colleges and Training Providers	Technical, vocational, and apprenticeship training course directories (covering construction trades, engineering, and retrofit qualifications).	Identifies the local skills pipeline and educational capacity within the Core Study Area. We use this to understand how local residents can access construction opportunities.
CoStar	Commercial real estate data and analytics (properties, leases, sales, tenants and market trends)	Used to assess the current supply of commercial floorspace in the ISA and CSA, helping us identify commercial interests that may be affected by land requirements.

Source	Data	Relevance to the Assessment
Draft HENPS / Heathrow Economic Appraisal Report	Airport operations and national trade data (including passenger volumes, runway capacity constraints, direct employment figures, and air cargo value and tonnage), alongside long-term capacity forecasts.	Establishes the baseline role of Heathrow in the UK economy and national trade. It also provides the analytical framework to explain the long-term economic consequences of runway capacity constraints.

11.6 Baseline Conditions

11.6.1.1 Secondary data has been collected from sources including official national statistics to outline an empirical understanding of the receptors that will be considered in the assessment and their broad characteristics.

11.6.1.2 Census 2021 data has been used throughout, which provides data at the smallest possible level that official statistics are released (output areas) enabling a granular perspective on communities. However, as identified in **Table 11-4** there are other data sources, some provided at different spatial scales and by different organisations, that will be relevant to the assessment and will be used to supplement Census data.

11.6.2 Baseline Description

11.6.2.1 A summary of the baseline conditions across receptors in the various Study Areas is presented below.

Economic Activity, Employment and Unemployment

11.6.2.2 In 2025, the CSA experienced both a higher economic activity rate and higher unemployment rate when compared to the regional and national areas. Of those who are economically inactive, 23% want a job, also higher than the regional and national areas. This indicates that employment opportunities, across both the construction and operational phase, may be welcomed by residents in this area. There are people locally, including certain groups who face particular barriers to employment, for whom the job opportunities that the scheme will deliver are directly relevant.[29]

[29] ONS, 2026. Annual Population Survey 2025. Available at: https://www.nomisweb.co.uk/ (accessed on: 31/07/2026).

Table 11-5: Economic Activity Statistics by Geography, 2025

Study Area	Economic Activity (16-64)	Employment Rate (16-64)	Unemployment Rate (16-64)	% of Economically Inactive Who Want a Job
CSA	82%	78%	5.3%	23%
Regional	81%	77%	5.0%	23%
National	79%	76%	4.5%	21%

11.6.2.3 Unemployment has risen in recent years across most geographies in the UK. Across the regional and national study areas, unemployment for 16–19-year-olds stands at 24% and 22% respectively, and for 20-24 this remains at 11% and 10%.[30] This is higher than the overall unemployment rate across 16-64 (see **Table 11-6**).

Table 11-6: Unemployment Statistics by Age and Geography, 2025

Study Area	16-19	20-24	25-34	16-64
Regional	24%	11%	5%	5%
National	22%	10%	4%	5%

11.6.2.4 This is a substantial increase from the pre-coronavirus pandemic, showing a trend in rising youth unemployment (see **Table 11-7**).

Table 11-7: Percentage Point Change in Unemployment by Age and Geography, 2019-2025

Study Area	16-19	20-24	25-34	16-64
Regional	6.6	2.0	1.3	1.1
National	5.3	1.1	0.5	0.5

11.6.2.5 Hillingdon's core employment priority is to support a thriving local economy in which businesses grow, and residents access "good quality jobs". The Council Strategy 2022–2026 states that the council is "actively working with local businesses and partners to create a borough where businesses grow within a

[30] ONS, 2026. Annual Population Survey 2025. Available at: https://www.nomisweb.co.uk/ (accessed on: 31/07/2026).

strong economy, and local people can improve their skills and enjoy good quality jobs".[31]

11.6.2.6 This focus on securing direct community benefits from major development is shared across the wider sub-region. In Hounslow, Proposed Local Plan Policy ED4 expects formal planning obligations towards construction and employment training, apprenticeships and job brokerage.[32] In Ealing, the Jobs and Skills Strategy 2024 to 2029 prioritises suitably upskilling residents for employment opportunities, clear skills pathways and inclusive access to growth sectors.[33] Similarly, the Buckinghamshire Skills and Employment Strategy 2026 to 2029 focuses on aligning resident skills with employer needs and emerging technologies.[34]

Construction Workforce

11.6.2.7 The UK construction workforce is large, geographically dispersed, and increasingly required to travel long distances or relocate temporarily to service major projects, especially in London and the South East. Sector-level analysis for 2024 estimates around 2 million workers in the UK construction sector, including 745,000 self-employed individuals, which underlines both the scale of the labour pool and the prevalence of mobile, project-based forms of work.[35]

11.6.2.8 The Construction Workforce Outlook produced by the Construction Industry Training Board (CITB) forecasts that this workforce will increase to around 2.68 million by 2030, with an average requirement for 41,200 extra workers per year between 2026 and 2030, equivalent to around 206,000 additional workers over the five-year period.[36]

11.6.2.9 Initial estimates find that within the HCCA, there exists a construction workforce of nearly 646,000.[37] Of which, 384,000 can commute within 90 minutes relying on public transport only. This workforce would be the likely home-based workforce that could potentially support with the construction of the Proposed Development.

11.6.2.10 Competing infrastructure developments may also require this labour.[38] The CSA has a number of key further education colleges and training providers that serve

[31] London Borough of Hillingdon, 2022. Council Strategy 2022-2026. Available at: https://pre.hillingdon.gov.uk/ (accessed on: 18/08/2026).
[32] London Borough of Hounslow 2024. Hounslow Local Plan 2020-2041 Proposed Submission Version. Available at: https://www.hounslow.gov.uk/ (accessed 26/08/2026)
[33] London Borough of Ealing 2024. Ealing's Jobs and Skills Strategy. Available at: https://www.ealing.gov.uk/ (accessed 25/08/2026)
[34] Buckinghamshire Council 2026. Buckinghamshire Skills and Employment Strategy 2026 to 2029. Available at: https://media.buckinghamshire.gov.uk/ (accessed 26/08/2026)
[35] CITB 2026. Construction Workforce Outlook (forecasts from 2026 to 2030). Available at: https://www.citb.co.uk/cwo/index.html (accessed 26/08/2026)
[36] CITB 2026. Construction Workforce Outlook (forecasts from 2026 to 2030). Available at: https://www.citb.co.uk/cwo/index.html (accessed 26/08/2026)
[37] ONS 2021. Census 2021. Available at: https://www.nomisweb.co.uk/ (accessed 18/08/2026)
[38] Planning Inspectorate 2026. Projects Map. Available at: national-infrastructure (accessed on: 24/08/2026)

the construction sector with a variety of construction training programmes that can be utilised to provide adequate labour supply, such as:

- HRUC (Harrow, Richmond and Uxbridge Colleges) – Level 2 Carpentry and Joinery apprenticeship and Level 3 Electrical Installation apprenticeship.[39]
- West Thames College – Construction Multi-Skills, L2 Carpentry and Joinery, L2 Diploma in Bricklaying, Level 3 Diploma in Electrical Installation, Plumbing - Level 1, and L2 Award in Retrofit.[40]
- West London College – Progression Award in Construction Skills Level 1 (including bricklaying, carpentry, plastering, tiling, basic plumbing and electrical), Electrical Installation Levels 1-3, Brickwork Level 2, and Construction Management - Level 4 HNC.[41]
- Windsor Forest Colleges Group / Slough & Langley College – Level 1 Diploma in Construction Skills, Level 1 Diploma in Carpentry & Joinery, Level 2 Diploma in Site Carpentry, Level 1 and Level 2 Plumbing, Level 2/3 Electrical Installation, and Level 3 NVQ Diploma in Insulation and Building Treatments (Retrofit).[42]
- Buckinghamshire College Group – Level 1 Construction Multi-skills, Level 1 and Level 2 Bricklaying, Level 1 Carpentry & Joinery, Level 1/2 Plumbing, Level 2 Electrical Installations, and a T Level in Civil Engineering.[43]
- Brooklands Technical College – Brickwork, Carpentry, Engineering for Construction (Electrical) including a T Level, plus Level 2 introductory awards in Brickwork and Site Carpentry.[44]
- JTL – Level 3 Electrical apprenticeship and Level 3 Plumbing and Domestic Heating apprenticeship.[45]
- MITSkills – apprenticeships in Carpentry and Joinery, Installation and Maintenance Electrician, Plumbing and Domestic Heating, Gas Engineering Operative, Property Maintenance Operative, Construction Site Supervisor, and Construction Support Technician.[46]

11.6.2.11 A list of other education institutions within the ISA is summarised in **Appendix 10.1: Community Baseline**, which includes schools and further education institutions. Such groups would be part of the wider engagement strategy as the scheme develops.

Commercial Property

11.6.2.12 A number of commercial interests will be directly affected by the land required for expansion and by other changes that are required (e.g. to road access). The extent of these will depend on the spatial scale of the Proposed Development.

[39] Available at: hruc.ac.uk (accessed on: 18/08/2026).
[40] Available at: west-thames.ac.uk (accessed on: 18/08/2026).
[41] Available at: wlc.ac.uk (accessed on: 18/08/2026).
[42] Available at: windsor-forest.ac.uk (accessed on: 18/08/2026).
[43] Available at: buckscollegegroup.ac.uk (accessed on: 18/08/2026).
[44] Available at: brooklands.ac.uk (accessed on: 18/08/2026).
[45] Available at: jtltraining.com (accessed on: 18/08/2026).
[46] Available at: mitskills.com (accessed on: 18/08/2026).

11.6.2.13 There are approximately 1,860 commercial properties across the ISA, with half (50%) classified as retail. **Table 11-8** presents the stock of property types within the ISA.[47] CoStar data to present the supply of floorspace across the CSA will also be obtained.

Table 11-8: Commercial Property in the ISA

Primary Property Type	Number of Properties	% Total Properties	Description
Retail	934	50%	This primary classification includes a range of shopfronts, restaurants, take-away food stores, and other specialty merchants.
Industrial	532	29%	These properties predominantly represent haulage depots, storage and distribution centres and service vehicle maintenance sites.
Office	279	15%	Office buildings support a range of industries within the ISA.
Other (Specialty)	73	4%	This includes specialised facilities such as sporting facilities, self-storage, builder's yards and community facilities.
Light Industrial	42	2%	This classification captures light distribution and manufacturing space, and showrooms.

Visitor Accommodation

11.6.2.14 The 2026 accommodation stock audit by Visit Britain provides a comprehensive assessment of accommodation stock by local authority. This has been used to measure the stock of accommodation within the CSA. In total there are approximately 52,135 rooms (115,570 beds) within the CSA, comprising predominantly hotel rooms (84%), as outlined in **Table 11-9**.

[47] NB: properties are categorised by primary property: determined by its dominant physical use, floor area allocation, and architectural design as evaluated by CoStar Research; 2026. CoStar research. Available at: https://www.costar.com/ (accessed on: 17/08/2026)

Table 11-9: CSA Visitor Accommodation Stock

Type	Rooms	Beds
Hotel	43,600	98,110
B&B/Guest house	1,985	4,465
Camping	1,195 (spaces)	NA
Short term rental units	5,350 (units)	13,000
Total	**52,130**	**115,570** (inc. camp spaces)

11.6.2.15 The average occupancy rate of accommodation in the CSA was 75% over the past 12-months (from June 2026), having peaked at 84% in July 2025.[48] This is slightly lower than the estimated visitor accommodation occupancy across England, as reported by Visit Britain (average of 79%, peaking at 88% in July 2025).[49] This indicates that there is more capacity within visitor accommodation in the CSA, than experienced nationally.

Heathrow Airport Capacity is Limiting the Future Growth of UK Airports

11.6.2.16 The UK Government policy position is that Heathrow Airport capacity is limiting the future growth of UK airport passengers. This is set out in the Draft HENPS (see paragraphs **11.6.2.17** and **11.6.2.18**). The following section provides context behind the statement that capacity is limiting growth.

11.6.2.17 UK airports handled a record 299 million terminal passengers in 2025. Heathrow alone accounted for 84.5 million of those, representing 28% of all UK air passengers and the busiest year in the airport's history. The airport has operated at or near full capacity for over 20 years. It is the busiest two-runway airport in the world and there is no spare runway capacity to absorb delays or support new routes. Competitor hubs in Paris and Frankfurt each operate four runways. The broader London airport system, even accounting for recently approved expansions at Stansted, Luton, Gatwick, Bristol and London City, is forecast to be completely full by the mid to late 2040s.[50]

11.6.2.18 The economic stakes are substantial. Aviation and aerospace contribute £23 billion to UK GDP and support 240,000 direct jobs nationally. Heathrow alone accounts for around 80,000 of those. Despite representing just 1% of UK trade by

[48] CoStar 2026. CoStar research. Available at: https://www.costar.com/ (accessed on: 17/08/2026)
[49] Visit Britain, 2026. England Hotel Occupancy June 2026. Published June 2026. Available at: https://www.visitbritain.org/research-insights/england-accommodation-stock-audit (accessed on: 14/08/2026)
[50] Department for Transport 2026. Draft Heathrow Expansion National Policy Statement. Published June 2026. Available at: Draft HENPS (accessed on: 18/08/2026).

weight, air freight carries 33% of UK imports and exports by value. Heathrow handles 60% of all UK air cargo tonnage, and the £216 billion of goods that passed through it in 2024 represented 23% of the total value of all UK goods traded across every mode of transport combined. When runway capacity is capped while demand continues to grow, fares rise, delays increase, and freight costs follow. The government estimates the direct cost to passengers of not expanding at between £21 billion and £23 billion over 60 years, with wider economic costs reaching up to £45 billion.[51]

Economic Growth is a National Priority

11.6.2.19 UK productivity growth has been weak by historic standards, and this slow productivity performance sits behind the UK's modest GDP growth. Since the financial crisis, productivity has stagnated over much of the past fifteen years, with the Office for Budget Responsibility forecasting trend productivity growth rising only gradually from 0.3% in 2024 to 1.0% by 2030.[52] It also expects potential output growth to slow from 1.8% in 2025 to 1.3% in 2026, before edging back to around 1.5% by 2030, significantly below pre-2008 norms.[53] Recent ONS productivity data remain cautious and mixed: output per hour is around 3.5% above its 2019 pre-pandemic average, but the latest flash estimate for Q2 2026 shows output per hour only 0.7% higher year-on-year on the RTI-based measure and 0.2% lower on the LFS-based measure.[54] Year-on-year productivity growth has only been about 0.4%, implying a very flat underlying trend.[55]

11.6.2.20 Against that background, overall GDP growth has been positive but subdued. High-frequency data reinforce the picture of modest expansion rather than strong recovery: the latest ONS estimates show real GDP growth of 0.6% in Q1 2026 and 0.4% in Q2 2026, with GDP 1.2% higher than a year earlier in Q2 2026.[56] In short, the UK appears to remain in a phase of slightly improving, but still low, productivity growth feeding through into GDP growth of around 1–1.5% a year, well below the growth rates that underpinned earlier decades of rising living standards. As such, economic and productivity growth remains a priority across the UK economy.

[51] Department for Transport 2026. Draft Heathrow Expansion National Policy Statement. Published June 2026. Available at: Draft HENPS (accessed on: 18/08/2026).
[52] OBR 2025. Economic and fiscal outlook – November 2025. Available at: https://obr.uk/ (accessed on: 31/07/2026)
[53] OBR 2025. Economic and fiscal outlook – November 2025. Available at: https://obr.uk/ (accessed on: 31/07/2026)
[54] ONS 2026. Productivity flash estimate and overview, UK: April to June 2026 and January to March 2026. Available at: Productivity flash estimate and overview (accessed on 25/08/2026)
[55] ONS 2025. Trends in UK business dynamism and productivity – 2025. Available at: Trends in UK business dynamism and productivity - Office for National Statistics (accessed on 31/07/2026)
[56] ONS 2026. GDP first quarterly estimate, UK: April to June 2026. Available at: Office for National Statistics (accessed on 25/08/2026)

11.7 Likely Significant Effects Requiring Assessment

11.7.1.1 The receptors identified in **Table 11-10** may experience likely significant effects as a result of the Proposed Development. The list of receptors will be kept under review during the EIA as more detailed information is obtained during baseline surveys and other forms of data collection by other aspects and will be reflected in the ES.

Table 11-10: Receptors

Receptor Group	Receptors within Group
Local businesses, commercial interests and property likely to be acquired or experience changes in the environment or surface access	Business property Agricultural properties and land Minerals activities Visitor accommodation stock owners
The economy	Businesses (specific types drawn out where relevant, e.g. airlines) UK economy Regional economy Local economy Housing market
People and the labour market	Residents Workers Visitors
Providers of skills, employment and training services	Further and higher education facilities and their users Local schools and their users Local training providers and their users

11.7.2 Construction

11.7.2.1 There are several potentially significant effects on economic and employment receptors that could occur during the construction phase of the Proposed Development. The potential for significant effects is considered across the following activities:

- Displacement/loss or other changes to land and property (including amenity and access) as a result of the land take;

- Temporary construction workforce and supply chain; and
- Changes to house prices caused by activity resulting from construction activity related to the Proposed Development.

11.7.2.2 The activities, effects, receptors on which these effects are likely to occur, the justification for scoping these effects into the assessment, and the Study Areas at which these effects are proposed to be assessed are shown in **Table 11-11**.

Table 11-11: Potentially Significant Economic and Employment Effects during the Construction Phase

Activity	Effect	Receptor	Pathway	Study Area(s)
Displacement/loss or other changes to land and property (including amenity and access) as a result of the land take	Potential temporary or permanent displacement of businesses or commercial activity including property, land and minerals	Business property Agricultural properties and land Minerals activities Visitor accommodation stock owners	Land take removes properties currently in commercial use. Affected businesses must relocate or close. Relocation carries costs and operational disruption. Some businesses will not survive the move, and that represents a permanent loss of commercial activity.	ISA
Displacement/loss or other changes to land and property (including amenity and access) as a result of the land take	The economic consequences of affected strategic land allocations being delayed or not delivered	The economy Businesses	Construction activity, including land take, access restrictions, noise and physical barriers, can undermine the deliverability or viability of strategic development allocations in the CSA. Where master planning is altered or schemes stall, planned housing and employment land supply falls short. Local authorities risk missing statutory delivery targets and losing the infrastructure commitments tied to them.	CSA
Displacement/loss or other changes to land and property (including amenity and access) as a result of the land take	Potential effects on sustainability or viability of businesses (including agricultural businesses) resulting from the Proposed Development (such as temporary or	Businesses	Land take removes properties currently in commercial and residential use. As a result, communities evolve and businesses who rely on this support are affected. Such businesses may see increased activity through the supply chain; others may see reduced activity due to removal of population groups. The closure of businesses would impact the vitality and viability of town centres within	ISA Town Centres

Activity	Effect	Receptor	Pathway	Study Area(s)
	permanent loss of catchment population, change in environment, or severance as a result of changes to access)		the ISA, and as such this geography is considered for this effect. Other chapters would be drawn upon to assess this, including **Chapter 21: Traffic and Transport, Chapter 10: Community**, and **Chapter 20: Noise and Vibration**.	
Displacement/loss or other changes to land and property (including amenity and access) as a result of the land take	Disruption to residents and their economic activity, through environmental changes and changes in access (e.g. severance and journey time) to/from employment locations	Residents	Severance, longer journey times and environmental disturbance reduce residents' access to employment, education and services. Commuting costs and time burdens increase. That affects their ability to participate in economic life and their broader quality of life.	ISA, CSA
Temporary construction workforce and supply chain	Potential temporary effect of employment generation and effects on businesses in the construction supply chain	Businesses (construction) Workers (construction)	Construction activity creates jobs directly on site. Workers spend wages locally, and contractors procure from the supply chain. That spending circulates outward, supporting indirect and induced employment across the wider economy.	HCCA
Temporary construction workforce and supply chain	Potential effects of new construction employment on the labour market, skills	Workers (construction) Further and higher education facilities, local schools, local	The construction programme draws in workers, including from the local area. Training and apprenticeships are delivered on the job throughout.	CSA

Activity	Effect	Receptor	Pathway	Study Area(s)
	and training (apprenticeships)	training providers and their users	Over time, that builds the skills base of the local construction workforce.	
Temporary construction workforce and supply chain	Potential effects on the demand for visitor accommodation	Businesses (Visitor accommodation owners) Visitors (users of visitor accommodation)	A large construction workforce needs somewhere to stay. That demand raises occupancy across local visitor accommodation, increasing revenues for providers. Availability tightens, prices rise, and leisure or business tourists who would otherwise use the same stock may be displaced.	CSA, HCCA

11.7.3 Operation

11.7.3.1 The potential for significant effects in the operational phase is considered across the following activities:

- Employment and business generation as a result of expansion;
- Introduction of competing terminals; and
- Changes to resources as a result of other environmental assessments.

11.7.3.2 The activities, effects, receptors on which these effects are likely to occur, the justification for scoping these effects into the assessment, and the Study Areas at which these effects are proposed to be assessed are shown in **Table 11-12**.

Table 11-12: Potentially Significant Economic and Employment Effects during the Operational Phase

Activity	Effect	Receptor	Pathway	Study Area(s)
Employment and business generation as a result of expansion	Potential wider effects on employment and the economy through direct influence (e.g. jobs and businesses supported directly related to the operation of the Airport), indirect influence (growth in business and jobs supported in the Airport's supply chain) and induced influence (jobs and businesses supported as a result of expenditure on goods and services) of expansion	Workers Businesses	Expanded operations generate direct employment on the airport campus. Contractors and suppliers create indirect jobs. Workers' spending supports induced employment in turn. Across the CSA and nationally, the cumulative effect is a sustained uplift in employment, GVA and business activity.	CSA HOCA
Employment and business generation as a result of expansion	Potential effects of new employment and business generated by the Proposed Development on skills and training (e.g. apprenticeships) in or related to the operational development	Workers Further and higher education facilities and its users Local schools and its users	Growth in airport operations drives sustained demand for skilled workers across multiple sectors. That demand creates the conditions for engagement with training providers and delivery of apprenticeships and vocational qualifications. Over time, the local and regional labour market carries a stronger skills base.	CSA

Activity	Effect	Receptor	Pathway	Study Area(s)
		Local training providers and its users		
Employment and business generation as a result of expansion	Potential additional effects on employment and the economy through catalytic effects at regional and national scale, as a result of improved connectivity resulting in additional trade, foreign direct investment and tourism	Local, Regional and UK economy	Expanded capacity supports a broader international route network with greater frequency. The cost and friction of international travel and trade fall as a result. The region becomes more attractive for foreign direct investment, more accessible for export activity and more appealing to inbound visitors, producing an uplift in regional and national economic output, business formation and employment.	Regional National
Employment and business generation as a result of expansion	Potential for local fiscal and business community effects, specifically local retention of business rates and changes to the composition of the local business base, as a direct result of the Proposed Development	Businesses	Expanded operations increase the rateable value of land and property within the CSA. This raises business rates receipts retained by local authorities. The physical presence of expanded operations draws occupiers who need to be co-located with it (for example aviation services, cargo handling, logistics, hospitality), changing the composition of the local business base. This pathway is driven by proximity to the site, not by the wider connectivity benefits captured in the effect above.	CSA
Introduction of competing terminals at	Potential effects of increased competition on airlines and airline users (profits and fares)	Businesses Visitors	The introduction of competing terminals increases competition between operators, changing the terms on which airlines access capacity. That has consequences for airline costs and potentially for	National

Activity	Effect	Receptor	Pathway	Study Area(s)
Heathrow Airport			passenger fares. The economic effects for airline profitability and passenger welfare depend on how competition develops.	
Changes to resources as a result of other environmental assessments	Potential effects on the local and wider economy as a result of significant residual environmental effects which have the potential for economic consequences (including transport/traffic effects)	TBD post review of other assessments	Where other ES chapters identify significant residual operational effects, their economic consequences are considered only where a clear pathway to business or labour market outcomes can be evidenced, for example through changes in footfall, occupier demand, operating costs or workforce access. Not every residual effect is assumed to carry an economic consequence: the link has to be demonstrable, not inferred. Where such a pathway exists, it may affect the viability and vitality of town centres, and this geography is considered accordingly.	Local Town Centres Dependent on other ES Chapters

11.7.4 Decommissioning

11.7.4.1 The Proposed Development is intended to form a permanent part of Heathrow Airport. Decommissioning of the Proposed Development is not currently anticipated and no decommissioning activities, programme or parameters have been defined. The overarching approach to decommissioning is set out in **Chapter 4: Approach to EIA**.

11.7.4.2 If decommissioning were proposed in the future, removal or demolition activities could give rise to temporary socio-economics pathways broadly similar to those associated with construction. Depending on the nature and location of the works, these could include changes in air quality, noise and vibration, traffic and access, community safety, land quality, flooding, open space, employment and income, access to services, and public understanding of risk. The relevant receptors would be determined by the location and extent of the future activities and the populations exposed.

11.7.4.3 However, in the absence of defined decommissioning proposals, it is not possible or proportionate at this stage to characterise the scale, duration, geographical extent or magnitude of these effects. Decommissioning is therefore not proposed for separate assessment within the Economics and Employment Chapter or inclusion as a series of individual effects in the likely significant effects table.

11.7.4.4 Any future decommissioning proposal would be expected to be subject to the planning, environmental assessment and regulatory requirements applicable at that time. This would provide the appropriate basis for assessing socio-economic effects, identifying affected communities and vulnerable groups, and establishing proportionate mitigation, monitoring and community liaison arrangements. Where individual components of the Proposed Development have a defined design life or foreseeable replacement or removal requirement, these will be considered through the relevant technical assessment and reflected in the Economics and Employment assessment only where a credible effect pathway is identified.

11.8 Effects Not Requiring Assessment

11.8.1.1 Based on the review of baseline information, it is proposed that the following economics and employment effects are scoped out (see **Table 11-13)**.

Table 11-13: Potential Effects to be Scoped Out of the Economics and Employment Assessment

Activity	Effect	Receptor	Justification for Scoping Out
Construction: Changes to house prices caused by activity	Potential effects on house prices	Residents	This effect is considered in **Chapter 10: Community.**

Activity	Effect	Receptor	Justification for Scoping Out
resulting from construction activity related to the Proposed Development			
Operational Phase: Displacement/loss or other changes to land and property (including amenity and access) as a result of the land take	Potential effects on the deliverability of strategic land allocations in the operational phase	Local Economy	The time between construction commencement and the operational phase is several years. Local Authorities would be expected to find solutions to meet their employment needs over this time. Given the size of the CSA compared to the Scoping Boundary, any effect is likely to be not significant given the vast land that can be drawn upon across this area.
Operational phase: Changes to house prices caused by activity resulting from the operation of the Proposed Development	Potential effects on house prices	Residents	This effect is considered in **Chapter 10: Community.**

11.9 Proposed Approach to Assessment

11.9.1.1 This Section sets out the proposed approach to assessment of the likely significant effects identified in **Section 11.7**.

11.9.1.2 No UK legislation or guidance sets out the detailed content required for socio-economic assessments, nor does it prescribe standards or thresholds for judging the significance of effects. However, it is widely agreed and accepted that the method conforms with the overarching EIA approach whereby significance is determined through the consideration of the sensitivity of the receptor and magnitude of impact. The significance of each effect is also considered to be a function of its nature: likelihood, duration (short to long term, temporary/permanent), frequency, and interaction (direct/indirect).

11.9.1.3 Effects can be characterised as beneficial (meaning they are likely to lead to a positive outcome or change compared to baseline conditions), or adverse

(meaning they are likely to lead to a negative outcome or change compared to baseline conditions).

11.9.1.4 The detailed assessment methodology will be agreed with stakeholders as engagement and the scoping response progress. This scoping note sets out our proposed Study Areas, receptors, and the justification and pathways for each effect, so that stakeholders can comment and help shape the final methodology.

Approach to Assessment

11.9.1.5 In the absence of a prescribed methodology, existing policy, standards and guidance are drawn on together with analysis and methods established for other large infrastructure and development projects, to inform the approach.

11.9.1.6 The methodology for assessing potential likely significant effects during the construction and operation phases will take the following steps:

- Identification of receptors potentially affected by the Proposed Development, including businesses, residents, communities, and labour markets and housing markets. An initial list is presented in **Table 11-10** for review in this scoping document.
- Investigation of the sensitivity of those receptors to change by analysis of baseline data – this will be influenced by desk study, stakeholder engagement, and public datasets. The assessment will focus closely on the sensitivity of each receptor, and in particular on its ability to respond to change. This is discussed in more detail from **Paragraph 11.9.1.10**.
- Review of policy, standards and guidance relevant to potential changes that may occur to the receptors as a result of the Proposed Development.
- The range of likely significant effects during the construction and operational phases will be assessed, in order to identify appropriate mitigation and enhancement measures. At different points in time, the Proposed Development would result in variation in the effects experienced. The assessment will consider both typical conditions and, where relevant, peak periods, such as maximum pressure on temporary accommodation during construction. Where there is uncertainty, the assessment will transparently describe the impact of that uncertainty and what has been assumed in order to reach a reasonable worst-case conclusion.

11.9.1.7 The assessment will have regard to the potential inequity of effects and their significance to groups with protected characteristics as identified by the Equality Act 2010. A full assessment of effects on groups with protected characteristics will be in the EqIA.

Assessment Years

11.9.1.8 The overall approach to determining the assessment years that will be used for the EIA is provided in **Chapter 4: Approach to EIA**. However, the assessment years presented in this section have been determined for the purposes of the economics and employment assessment specifically.

11.9.1.9 Different effects will arise as a result of the phasing of the different activities of the construction and operational phases. The interaction of the activities and their maximum impact/interaction will be taken into account such that the reasonable worst-case scenario in each regard is assessed, and this may be a different year per effect. Indicatively the assessment years per phase for the economics and employment assessment are:

- Construction phase:
  - Construction start year;
  - Construction effect year: the year(s) for which the construction activity would have an effect on the receptor;
  - Reasonable worst-case scenario year: the maximum interaction of Proposed Development activities and the environmental effects (adverse, beneficial) occurring on the receptor; and/or
  - Peak construction activity year(s): the maximum impact of construction activity, where different to the above years. This assessment year would be taken for relevant effects, such as the effect on the demand for visitor accommodation in the construction phase.
- Operation phase:
  - Operation start year;
  - Operation effect year: the year(s) for which the operational activity would have an effect on the receptor; and/or
  - Reasonable worst-case scenario year: the maximum interaction of Proposed Development operational activities and the environmental effects (adverse, beneficial) occurring on the receptor.

Sensitivity

11.9.1.10 The sensitivity of a receptor refers to its ability to withstand or adapt to environmental change. The sensitivity of the receptor will be determined using a combination of primary and secondary data, stakeholder feedback, and professional judgement. This will include quantitative baseline evidence, where available, such as employment and unemployment levels, business numbers, floorspace, apprenticeship participation, passenger numbers and operational capacity. A sensitivity level of either high, medium, low or very low will be assigned to each relevant receptor.

11.9.1.11 The baseline and future baseline assessment will identify the sensitivity of each receptor, including its ability to respond to change. Baseline data will be contextualised through comparison with relevant geographical benchmarks, historic trends and, where relevant data are available, comparable locations or sectors. This will allow us to assess the relative strength, capacity and resilience of the receptor, rather than considering baseline conditions in isolation. The magnitude (scale) of likely impacts will then, where possible, be benchmarked

against this context using quantitative information, or qualitative assessment based on professional judgement.

11.9.1.12 Sensitivity will be broadly assessed on the following basis (see **Table 11-14**). The final sensitivity categorisation will reflect the relative position of the receptor against the relevant contextual evidence, alongside any relevant qualitative considerations.

Table 11-14: Definitions of Sensitivity Levels for Economics and Employment Receptors

Sensitivity	Initial Definition
High	Represents an economic receptor of high importance. The receptor is very sensitive to most temporary or permanent changes, over the whole receptor, and/or very sensitive to alteration of key characteristics or features of the receptor's character or distinctiveness. The effect of changes to the receptor would be highly noticeable, possibly due to no surplus capacity/high scarcity.
Medium	Represents an economic receptor of moderate importance, which is sensitive to certain temporary or permanent changes, over the majority of the receptor, and/or sensitive to alteration of key characteristics or features of the receptor's characteristics or distinctiveness. Changes to the receptor would bring about noticeable changes in the study area.
Low	The receptor is of low importance, with some sensitivity to some specific types of change, over a minority of the receptor, and/or limited sensitivity to the alteration of key characteristics or features of the receptor's character or distinctiveness. The receptor is therefore relatively insensitive to changes in baseline conditions.
Very low	The receptor is not sensitive to change in baseline conditions, with potential exception of specific aspects, over a small area of the receptor, and/or does not contain any key characteristics or features of a particularly sensitive character or distinctiveness.

Magnitude

11.9.1.13 Magnitude refers to the scale, severity and permanence of an impact occurring on a receptor. The magnitude of the impact will be similarly determined using a combination of primary and secondary data, stakeholder feedback, and professional judgement. Where impacts can be quantified, for example changes in employment, business activity, floorspace, passenger numbers or capacity, this evidence will provide the starting point for the magnitude assessment. In other cases, the assessment may draw on a combination of quantitative and qualitative evidence, particularly where the effect concerns the nature, distribution or duration

of change. A magnitude level of either high, medium, low or very low will be assigned to each relevant receptor. Broad definitions of the magnitude levels are provided in **Table 11-15**, which will be refined for each effect at the preliminary assessment stage.

Table 11-15: Definitions of Magnitude Levels for Economics and Employment Receptors

Magnitude	Initial Definition
High	The Proposed Development would cause fundamental changes to the existing economic baseline conditions underpinning the receptor, causing a major alteration to the receptor's characteristics or features of the receptor's character or distinctiveness.
Medium	The Proposed Development would cause considerable changes to the existing economic baseline conditions underpinning the receptor, causing a moderate alteration to the receptor's characteristics or features of the receptor's character or distinctiveness.
Low	The Proposed Development would cause a discernible change to existing economic baseline conditions, causing a limited but discernible alteration to the receptor's characteristics or features of the receptor's character or distinctiveness.
Very low	The Proposed Development would cause little or no discernible change to existing economic baseline conditions. Any change would be limited in extent, duration or intensity, and would not materially alter the receptor's key characteristics or capacity to function.

Determining Significance

11.9.1.14 The magnitude and sensitivity assessments will also take into account embedded mitigation. The significance of effects (positive or negative, and major, moderate, minor and negligible) will then be determined, taking into account the following factors:

- The capacity of the relevant area, resource or receptor to absorb or respond to the impact, which may be influenced by the geographical extent of the receptor, and the context of the impact in terms of recent rates of change, relative performance against relevant benchmarks, and other relevant baseline conditions. This relates to sensitivity, as set out in **Paragraph 11.9.1.10**.
- The magnitude of the potential impact, which may be influenced by the geographical extent of the impact, its permanence or temporary nature, duration and reversibility, and the scale of any quantified change. This relates

to magnitude, as set out in **Paragraph 11.9.1.13**, and in the context of any embedded mitigation.

11.9.1.15 Assessment of impact significance is qualitative and reliant on professional experience, interpretation and judgement. However, that judgement will be informed by the quantitative and qualitative evidence assembled through the baseline, sensitivity and magnitude assessments. Quantitative evidence will be used to establish the scale of existing conditions and, where possible, the scale of change arising from the Proposed Development. Qualitative evidence will be used to interpret the importance of that change in its local, strategic and policy context. The matrix should therefore be viewed as a framework to aid understanding of how a judgement has been reached, rather than as a prescriptive, formulaic tool.

Table 11-16: Assessment Matrix

		Magnitude							
		High	**Medium**	**Low**	**Very Low**	**Very Low**	**Low**	**Medium**	**High**
Sensitivity	**High**	Major Adverse	Major Adverse	Moderate Adverse	Minor Adverse	Minor Beneficial	Moderate Beneficial	Major Beneficial	Major Beneficial
	Medium	Major Adverse	Moderate Adverse	Minor Adverse	Minor Adverse	Minor Beneficial	Minor Beneficial	Moderate Beneficial	Major Beneficial
	Low	Moderate Adverse	Minor Adverse	Minor Adverse	Negligible	Negligible	Minor Beneficial	Minor Beneficial	Moderate Beneficial
	Very Low	Minor Adverse	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Minor Beneficial

Nature of Effects

11.9.1.16 Additional characteristics are taken into account in the process of determining whether an effect on a receptor is significant. These include:

- Permanence, relating to whether an effect is either:
  - Temporary: its duration is limited and/or environmentally reversible

- Permanent: it endures in perpetuity and/or is environmentally irreversible

11.9.1.17 Duration, relating to the temporal aspect of the effect which is either:

- ‘Very short term’ relates to impacts measured in hours or days;
- ‘Short term’ relates to impacts measured in months;
- ‘Medium term’ relates to impacts measured in years; and
- ‘Long term’ relates to impacts measured in decades.

11.9.1.18 The remainder of this subsection provides more specific methodology in determining the significance of each effect outlined in **Table 11-11** and **Table 11-12**.

Assessment Methodology

11.9.1.19 The ES will set out the anticipated construction programme to establish the intensity, scale, location and timing of construction activity. The assessment of construction impacts will then relate to the programme described. The key approach to assessment of effects in the construction phase is presented in **Table 11-17**, with the operational effects presented in **Table 11-18.**

Table 11-17: Assessment Methodology by Effect in the Construction Phase

Effect	Approach to Assessment
Potential temporary or permanent displacement of businesses or commercial activity including property, land and minerals	• The baseline will identify all commercial and agricultural properties affected by land take, using land referencing returns cross-checked against other data sources. • Each affected business will be characterised as far as data allows sector, employment, length of occupation and any site-specific locational dependency. • The assessment will distinguish businesses that can viably relocate within the ISA from those that cannot and will identify sectors where loss represents a permanent reduction in local economic capacity rather than displacement. • Significance will be tested against ISA-level employment by sector, to establish whether the loss materially affects the structure or resilience of the local economy.
The economic consequences of affected strategic land allocations being delayed or not delivered	• Total quantum of strategic housing and employment allocations in adopted or emerging Local Plans within the CSA would be mapped to identify those that lie within or immediately adjacent to the Proposed Development. • Viability will be tested qualitatively, determining whether construction threatens delivery. • The housing supply consequence will be quantified by comparing the dwellings at risk against the authority's five-year supply position and housing delivery test performance, using published monitoring data. • Employment land effects will be quantified in floorspace terms, with reference to employment land reviews and economic development strategies. • The assessment will state where delivery risk depends on the phasing and duration of construction activity, and whether mitigation (for example altered access arrangements or phased land release) can reduce the effect.
Potential effects on sustainability or viability of businesses	• The baseline will identify businesses that depend on a local resident catchment, using land referencing, business rates data and site visits. This will include convenience retail, local services, hospitality and community facilities. • The resident population affected by land take will be quantified using **Chapter 10: Community**.

Effect	Approach to Assessment
(including agricultural businesses) resulting from the Proposed Development (such as temporary or permanent loss of catchment population, change in environment, or severance as a result of changes to access)	• Access and severance effects will draw on **Chapter 21: Traffic and Transport**. • Supply chain opportunities will be assessed separately. Businesses that are well placed to supply the construction programme, such as plant hire, aggregates, civil engineering services, accommodation and catering, would be noted. • For particularly sensitive assets, the net effect on individual businesses will be assessed case by case where land referencing or consultation identifies specific high-impact cases. • Significance will be judged by whether businesses can absorb the effect, adapt to it, or face a credible risk of permanent closure. Particular weight will be given to businesses providing services that are not easily replaced elsewhere in the ISA. • The effect on businesses in Local Town Centres will be drawn out explicitly, and the significance of effect will be concluded at this geography as well as the ISA, giving an indication of the potential for there to be any effect on the vitality and viability of town centres.
Disruption to residents and their economic activity, through environmental changes and changes in access (e.g. severance and journey time) to/from employment locations	• The baseline will establish current commuting patterns using ONS Census journey-to-work data, to show the volume and direction of commuter flows and the share by mode. Affected residents will be identified from **Chapter 21: Traffic and Transport**. Residential areas that would experience journey time changes will be identified. • Severance will be assessed where construction physically separates residents from employment, education or services: road closures, diverted footpaths, station access restrictions; duration and the availability of alternatives will be stated. • Environmental effects (noise, air quality, visual intrusion) will draw on the findings of the respective ES chapters; where a significant residual effect is reported, the economic consequence will be assessed in terms of reduced quality of life and any impact on residents' ability to work from home, particularly where the baseline shows a high share of home-working. • Vulnerable groups will be identified: shift workers dependent on specific bus routes, residents in the most deprived CAs where marginal increases in travel cost matter most, and those with caring responsibilities where journey time matters for school or nursery pick-up.

Effect	Approach to Assessment
	• Significance will turn on whether construction materially affects residents' ability to reach work, education or essential services, and whether the effect falls disproportionately on those least able to adapt.
Potential temporary effect of employment generation and effects on businesses in the construction supply chain	• The baseline will establish the size and capability of the construction sector in the HCCA (see P**aragraph 11.6.2.9** for an initial estimate). • The construction worker profile would be presented and broken into peak and average employment, and by phase. • The workforce share likely to be drawn from the HCCA will be estimated using observed data from comparable projects adjusted for the local labour market conditions. The assumption will be transparent and tested across a reasonable range. This will be reported in a separate **Temporary Workforce Accommodation Strategy**. • Leakage, displacement and multipliers will be applied following the Additionality Guide, with each stated and sourced. • Significance will be tested by comparing peak and average construction employment against baseline HCCA employment in construction and the forecast change over the construction period.
Potential effects of new construction employment on the labour market, skills and training (apprenticeships)	• The baseline will cover the resident skills and economic activity profile. • Construction-relevant skills provision will be mapped. • The occupational and skill profile of construction demand will be set out. • The assessment will cross-reference the **Employment and Skills Strategy**. • Longer-term legacy will be assessed: whether the skills acquired are transferable beyond this project, and whether local training capacity is enhanced such that benefits persist after construction ends. • Significance will be determined based on whether the project materially increases the skilled construction workforce in the CSA, reduces youth unemployment or NEET rates, or builds the capacity of local providers in a way that supports the wider development pipeline.

Effect	Approach to Assessment
Potential effects on the demand for visitor accommodation	• This will draw on the **Temporary Workforce Accommodation Strategy** which would provide an estimate of the non-home based construction workforce. The worst-case scenario for numbers requiring accommodation would be assessed in this effect. • The baseline stock of visitor accommodation would be established using the Visit Britain Accommodation Audit 2026 and online booking platforms. Seasonal occupancy trends, Average Daily Rate (ADR), and Revenue Per Available Room (RevPAR) will be utilised to determine actual, real-world vacancy during peak periods. • The affordability of the identified stock will be assessed by comparing average room rates against standard industry worker lodging allowances. • Accommodation demand will be modelled month-by-month across the construction programme to pinpoint exactly when the peak pressure on local lodging will occur. • The potential displacement of regular tourists will be analysed, and whether visitors would have a change in their ability to find accommodation in the Study Area as a result of Proposed Development. • Upcoming hotel developments and pipeline schemes will be identified. Factoring in their delivery timescales will show how much new capacity will be available to absorb worker demand.

Table 11-18: Assessment Methodology by Effect in the Operational Phase

Effect	Approach to Assessment
Potential wider effects on employment and the economy through direct influence (e.g. jobs and businesses supported directly related to the operation of the Airport), indirect influence (growth in business and jobs supported in the Airport's supply chain) and induced influence (jobs and businesses supported as a result of expenditure on goods and services) of expansion	• The baseline will be established using operator data on on-airport employment, cross-checked against ONS datasets. • Gross direct operational employment will be estimated using a jobs-per-million-passengers ratio, declining across assessment years to reflect automation and productivity growth; the rate of decline will be expressed as a range rather than a point estimate. • GVA will be derived from ONS regional accounts, using GVA per workforce job for the CSA. • The additionality framework in the Additionality Guide (HCA, 2014) will be applied: leakage, displacement, substitution and multipliers, each stated with its source and justification.[57] • Results will be reported at three levels: gross, gross additional and net additional employment, so that the contribution of each assumption is visible. • Significance will be tested by comparing net additional employment against forecast CSA employment at each assessment year, using adopted local plan evidence and published projections. • Assessment years will align with opening, an interim year and full capacity.
Potential effects of new employment and business generated by the Proposed Development on skills and training (e.g. apprenticeships) in or	• The baseline will cover the resident qualification profile (Annual Population Survey), apprenticeship starts and achievement rates (DfE), NEET rates, and the education and skills domain of the IMD, mapped to LSOA so that pockets of need are visible rather than averaged away. • Educational provision across the ISA will be mapped (a list of all relevant educational institutions in the ISA is included in **Appendix 10.1 – Community Receptors**) • The occupational profile of future operational employment would be estimated based on data provided by the Applicant.

[57] Homes and Communities Agency 2014. Additionality Guide. Available at: https://www.gov.uk/ (accessed on 18/08/2026)

Effect	Approach to Assessment
related to the operational development	• Apprenticeship starts will be quantified, benchmarked against current airport performance and the draft HENPS expectation of 5,000 apprenticeships to be delivered. • The effect will be assessed against the credibility and enforceability of commitments in an **Employment and Skills Strategy.** • The assessment will state explicitly that the benefit is conditional on those commitments being secured.
Potential additional effects on employment and the economy through catalytic effects at regional and national scale, as a result of improved connectivity resulting in additional trade, foreign direct investment and tourism	• The change in connectivity will be modelled by reference to destinations served, frequency and seat capacity, weighted by the economic significance of the markets reached. • Elasticities linking connectivity to output and productivity will be applied, presenting the full range from the literature rather than a single central case. • The resulting order of magnitude will be cross-checked against the DfT appraisal underpinning the draft HENPS. • The three transmission mechanisms will be assessed separately: trade (ONS trade data and published estimates of the share of UK trade by value moving as air freight); inward investment (DIT inward investment statistics); and tourism (International Passenger Survey and VisitBritain spend per visit). • Results will be reported in NPV terms, with an explicit statement that catalytic effects must not be added to direct, indirect and induced effects. Catalytic impacts are presented as alternative indicators of economic influence and must not be aggregated with direct, indirect or induced employment and GVA estimates. • Where the connectivity gain depends on infrastructure outside the applicant's control, the effect will be treated and labelled as cumulative.
Potential for local fiscal and business community effects, specifically local retention of business rates and changes to the	• The rateable value of new and altered floorspace will be estimated using the VOA rating list and comparable airport valuations; the prevailing multiplier and retention arrangements will be applied to estimate the share accruing to the billing authority. • Rates foregone from displaced floorspace will be netted off, distinguishing floorspace that relocates within the CSA from floorspace lost to the area entirely.

Effect	Approach to Assessment
composition of the local business base, as a direct result of the Proposed Development	• The assessment will state explicitly that retention arrangements, revaluation and any future reform sit outside the applicant's control.
Potential effects of increased competition on airlines and airline users (profits and fares)	• The baseline will cover the current regulatory position, airport charges per passenger, and a benchmark comparison against comparator hubs. • The mechanism will be set out: lower capital cost per unit of capacity, service quality competition, and the degree of pass-through from airport charges to fares. • The capital cost differential per passenger will be quantified, converted to a charge per passenger, and converted to fares using a stated pass-through assumption tested across a range of values. • Fare changes will be translated into passenger welfare using consumer surplus methods. • The qualitative case will be grounded in a range of research papers and academic studies. • The assessment will state clearly that effects on airline profitability and on passenger welfare are distinct and may move in different directions.
Potential effects on the local and wider economy as a result of significant residual environmental effects which have the potential for economic consequences (including transport/traffic effects)	• This element will be sequenced behind the other technical chapters and is dependent on residual significant effects reported in the air quality, noise, traffic and transport, health and land quality chapters. • Each residual significant effect will be screened for a credible economics and employment pathway on the receptor groups identified in **Table 11-10**. • Effects will be quantified where methodology allows. Where a pathway is real but not quantifiable, the effect will be assessed qualitatively and the limitation stated explicitly. • Specific businesses most exposed will be identified through land referencing rather than area-wide averages. • For town centres, we will consider qualitatively if the residual effects combined will materially affect the viability and vitality of the town centre.

11.9.2 Additional Baseline Information Required

11.9.2.1 Additional information on resources, receptors and businesses will be sought from a range of third-party organisations. These include the Department for Transport, HSPG, CISHA, other Local Planning Authorities, government and non-government bodies, and specific interest groups.

11.9.2.2 Additional baseline information required for the economics and employment assessment may include:

- Identification of the businesses and industry groups operating in the areas affected;
- Data on the function, supply chain, operational requirements and existing constraints of these businesses;
- Information on commercial property within, or bordering, areas subject to (or potentially subject to) compulsory purchase, including details of commercial tenants;
- Sensitivities identified through stakeholder liaison, beyond those specific to commercial property;
- Employment land reviews and needs assessments published as part of local authority and regional evidence bases; and
- Emerging standards, research and policy relevant to the economic effects of large infrastructure development.

Future Baseline

11.9.2.3 The point in time at which the anticipated economic effects relating to the Proposed Development would occur is different to the point of assessment and/or the year for which data is available to characterise current conditions. To conduct a more realistic assessment, a future baseline would be established so the receptors at the point at which an effect would occur are better understood and their sensitivity at that point determined. The future baseline has two components: the receptors and the characteristics that determine their sensitivity.

11.9.2.4 The sources above will also be used to characterise the future baseline insofar as they contain robust information about the relevant receptors at the future assessment years. Only receptors that exist at the time at which an effect occurs will be considered to comprise part of the future baseline. This includes addition and omission of receptors compared against those currently identified. An assessment of an economics and employment effect on a receptor is only undertaken in the phase in which the effect occurs on it/them, which may be in multiple phases.

11.9.2.5 Additional sources of information about the future baseline will be derived from:

- Population forecasts;
- Housing and employment needs evidence and assessments; and

- Economic modelling undertaken and underpinning assumptions in relation to the Proposed Development.

11.9.2.6 Projections of populations at interim assessment years across the Study Areas will be procured from reputable industry standard providers and the spatial scale, methodology and assumptions will be agreed with HSPG through regular engagement to ensure they are fit for purpose for this assessment, and consistent with future baseline assumptions for other assessments.

11.9.3 Cumulative Effects

11.9.3.1 The cumulative effects assessment for economics and employment follows the four-stage process set out in **Chapter 24: Approach to Cumulative and In-combination Effects**.

- Stage 1 establishes a long list of committed developments within the zone of influence, tiered by certainty of delivery in accordance with **Table 24-3**.
- Stage 2 shortlists those with realistic potential for cumulative interaction with the Proposed Development.
- Stage 3 gathers development information relevant to effects scoped into this Chapter for shortlisted schemes.
- Stage 4 assesses combined effects and, where adverse, considers mitigation.

11.9.3.2 For economics and employment, the zone of influence corresponds to the ISA and CSA, consistent with **Table 24-2**. Tier 1 schemes will be the primary focus. Tier 2 and Tier 3 schemes will be included where they are likely to interact materially with the effects of the Proposed Development.

11.9.3.3 The assessment will use the standard committed development list maintained across the ES, tiered in line with **Chapter 24: Approach to Cumulative and In-combination Effects**. The list is not bespoke to this topic. Where topic-specific judgements are needed about whether a development is likely to interact with a particular effect, those judgements will be set out and shared with consultees.

11.9.3.4 For most economics and employment effects, the cumulative contribution of committed developments is already embedded in the future baseline. Local Plan housing trajectories, employment land reviews and economic development strategies are prepared on the assumption that planned and allocated schemes will come forward. Where the future baseline draws on those sources, the aggregate effect of committed development is already accounted for. Conducting a separate cumulative assessment against the same baseline would count the same change twice.

11.9.3.5 This applies to effects assessed at CSA level, including aggregate employment and GVA uplift, skills and training demand, and the general business environment. It also applies to effects on individual businesses where the baseline operates at sector level rather than at the level of named occupiers.

11.9.3.6 There are specific effects where the Local Plan-derived baseline is too coarse to capture cumulative interactions. For these, a targeted cumulative assessment is required. **Table 11-19** sets out what is scoped in and out of the cumulative assessment in the construction phase, and the rationale for each decision. **Table 11-20** presents the same for the operational phase.

Table 11-19: Cumulative Assessment Methodology by Effect in the Construction Phase

Effect	Cumulative Assessment	Rationale
Potential temporary or permanent displacement of businesses or commercial activity including property, land and minerals	Scoped out	Displacement results from the Proposed Development's own land take. A committed development simultaneously CPO-ing the same property is not a realistic scenario and would be dealt with through legal process, not this assessment. Aggregate sector-level effects are already embedded in the Local Plan evidence base. Where land referencing identifies a named business affected by both the Proposed Development and a committed scheme, that specific case will be assessed as a targeted cumulative instance under the effect below.
The economic consequences of affected strategic land allocations being delayed or not delivered	Scoped out	Housing and employment land trajectories in adopted and emerging Local Plans are prepared on the assumption that committed allocations will come forward. The future baseline draws on these trajectories, so the contribution of committed development to land supply is already accounted for. A separate cumulative test would double-count.
Potential effects on sustainability or viability of businesses (including agricultural businesses) resulting from the Proposed Development (such as temporary or permanent loss of catchment population, change in environment, or	Scoped in	For the general business environment, the aggregate effect of committed residential and commercial development on catchment populations is embedded in the Local Plan-derived future baseline. No further cumulative assessment is needed at that level. However, retail and economic forecasts in Local Plans are produced at a broader spatial scale than individual town centre catchments. They may not capture the combined effect of two schemes simultaneously drawing on the same catchment or disrupting access to the same centre. Where a town centre identified in the baseline lies within the zone of influence of a committed development and the Proposed Development, the combined effect will be assessed. Similarly, where land referencing or consultation

Effect	Cumulative Assessment	Rationale
severance as a result of changes to access)		identifies a named business whose site, access or catchment is affected by both the Proposed Development and a committed scheme, the combined effect will be considered at the level of that occupier.
Disruption to residents and their economic activity, through environmental changes and changes in access (e.g. severance and journey time) to/from employment locations	Scoped out	The economic consequences of access disruption are downstream of findings in **Chapter 21: Traffic and Transport**, **Chapter 20: Noise and Vibration** and **Chapter 5: Air Quality and Odour** each of which carries its own cumulative assessment. This Chapter will reflect those residual cumulative findings. Conducting a parallel cumulative economic assessment would double-count the same underlying effects. Population and journey-to-work patterns used in the baseline already incorporate committed residential development.
Potential temporary effect of employment generation and effects on businesses in the construction supply chain	Scoped in	Local Plans do not contain construction workforce forecasts for committed developments. The HCCA contains a number of large infrastructure projects with potentially overlapping construction programmes. Combined labour demand from those projects, assessed against the estimated HCCA workforce, is a cumulative effect not visible in the Local Plan-derived baseline. The assessment will identify periods of peak concurrent demand.
Potential effects of new construction employment on the labour market, skills and training (apprenticeships)	Scoped in	Employment and Skills Strategies and relevant commitments associated with cumulative developments will be reviewed to identify anticipated demand for training, apprenticeships and other skills provision. A likely qualitative assessment will then consider whether local training providers have sufficient capacity to meet this combined demand, or whether further support and coordination may be needed to maximise potential benefits. Competition for construction workers from concurrent projects is considered separately under the supply chain effect.
Potential effects on the demand for	Scoped in	Where committed developments have overlapping construction programmes, their workforces may compete simultaneously for the same accommodation stock. Baseline occupancy data reflects typical

Effect	Cumulative Assessment	Rationale
visitor accommodation		demand from a single project. The combined accommodation demand from concurrent construction programmes cannot be read from that baseline. The assessment will identify periods of peak concurrent demand and assess whether other users, including leisure and business visitors, risk being displaced.

Table 11-20: Cumulative Assessment Methodology by Effect in the Operational Phase

Effect	Cumulative assessment	Rationale
Potential wider effects on employment and the economy through direct influence (e.g. jobs and businesses supported directly related to the operation of the Airport), indirect influence (growth in business and jobs supported in the Airport's supply chain) and induced influence (jobs and businesses supported as a result of expenditure on goods and services) of expansion	Scoped out	Future baseline employment projections draw on Local Plan evidence and published economic forecasts that incorporate the aggregate contribution of committed commercial and employment development. The direct, indirect and induced employment from the Proposed Development is assessed as additional to that baseline. Conducting a separate cumulative assessment would count committed development twice.
Potential effects of new employment and business generated by the Proposed Development on skills and training (e.g. apprenticeships) in or related to the operational development	Scoped in	Operational employment and business activity could generate demand for training, apprenticeships and other skills provision. Employment and Skills Strategies (ESSs) and relevant commitments associated with cumulative developments will be reviewed to identify their anticipated skills and training requirements. A likely qualitative assessment will consider whether local training providers have sufficient capacity to meet combined demand, or whether further support and coordination may be needed to maximise potential benefits.

Effect	Cumulative assessment	Rationale
Potential additional effects on employment and the economy through catalytic effects at regional and national scale, as a result of improved connectivity resulting in additional trade, foreign direct investment and tourism	Scoped in	Catalytic effects operate at regional and national scale and are not captured in Local Plan evidence bases. Connectivity improvements may interact with those delivered by other committed national infrastructure, including rail enhancements and other airport expansions. Where the connectivity gain depends on infrastructure outside the Applicant's control, the combined effect will be assessed and clearly labelled as cumulative.
Potential for local fiscal and business community effects, specifically local retention of business rates and changes to the composition of the local business base, as a direct result of the Proposed Development	Scoped in	The Proposed Development could affect local business rates receipts and the composition of the local business base. The scale of these effects will depend on factors that may change over time, including the amount and type of floorspace delivered by cumulative developments, rateable values, the business rates multiplier and the wider business rates regime. A qualitative assessment will therefore consider whether committed developments could give rise to cumulative effects on local fiscal revenues or the local business community.
Potential effects of increased competition on airlines and airline users (profits and fares)	Scoped out	This effect relates to the competitive and regulatory dynamics of airport capacity at Heathrow specifically. It is not dependent on committed developments in the local area, and no other committed scheme in the zone of influence creates a plausible cumulative interaction with airline competition or passenger fares.
Potential effects on the local and wider economy as a result of significant residual environmental effects which have the potential for economic consequences (including transport/traffic effects)	Scoped out	This effect is sequenced behind other technical chapters and is dependent on residual significant effects reported there. Each of those chapters carries its own cumulative assessment. The economic consequences reported here will reflect those residual cumulative findings. Conducting a separate economic cumulative assessment of the same

Effect	Cumulative assessment	Rationale
		underlying environmental effects would double-count.

11.9.4 In-Combination Effects

11.9.4.1 In-combination effects have the potential to arise where environmental effects of the Proposed Development interact with each other such that the effect is different to an environmental effect happening in isolation. Potential in-combination effects will be assessed based on consideration of principles guiding cumulative effect assessment with the intention of providing proportionate and meaningful assessment only for potentially significant effects. Therefore, the following criteria to describe significance in this regard will be taken into account to determine whether an in-combination effect assessment should be considered: duration of effect, extent of effect, type of effect, frequency, value and resistance of the receptor and likely success of mitigation.[58]

11.9.4.2 In-combination effects will be considered only where relevant over and above those pathways that already consider how environmental topics interact such as those relating to amenity.

11.9.4.3 An indicative sifting exercise for the relevant topic effects to be taken into account for the assessment of in-combination effects is shown in **Table 11-21,** where a '✓' means it would be considered, a 'X' means it won't, and a ? means it is under review as the assessment develops. This will remain under review as more detailed assessments are undertaken at preliminary assessment stage.

Table 11-21: Relevant Topic Effects to be Considered for Assessment of In-combination Effects

Activity	Community	Health	Recreation	Traffic and Transport	Major Accident and Disasters	Noise and Vibration	Air Quality and Odour	Landscape and Visual Amenity
Displacement/loss or other changes to land and property (including amenity and access) as a result of the land take	✓	?	✓	✓	?	✓	✓	?

[58] Ministry of Housing, Communities and Local Government 2026. National Planning Policy Framework. Published August 2026. Available at: https://www.gov.uk/ (accessed on: 18/08/2026).

Activity	Community	Health	Recreation	Traffic and Transport	Major Accident and Disasters	Noise and Vibration	Air Quality and Odour	Landscape and Visual Amenity
Temporary construction workforce and supply chain	✓	?	?	✓	?	?	?	?
Changes to resources as a result of other environmental assessments	✓	✓	✓	✓	✓	✓	✓	✓
Employment and business generation as a result of expansion	?	?	?	?	?	?	?	?
Introduction of competing terminals at Heathrow Airport	?	?	?	?	?	?	?	?

11.9.5 Limitations and Assumptions

11.9.5.1 The assessment of baseline conditions will be limited to the availability of data. Some datasets, like the 2021 Census, provide detailed spatial information and represent a reliable sample size, but by the time of assessment will be dated. Where possible other National Statistics and public datasets will be used to update 2021 Census data, but in some cases, this remains the most reliable and spatially detailed source. The 2011 Census may also be referred to, as some information provided in the 2021 Census was heavily affected by the coronavirus pandemic.

11.9.5.2 This assessment will consider a future baseline (as discussed in **Paragraph 11.9.2.3**) based on projections of population change and demographic change, to consider the impacts of the Proposed Development on communities in the future compared to the characteristics of communities today. The assessment years extend decades ahead. Published projections are proportioned down from national macroeconomic assumptions and respond poorly to shocks. They also struggle to capture local factors that drive growth in a specific area. They indicate direction and approximate scale. They should not be read as predictions.

11.9.5.3 Additionality parameters, such as displacement rates and multipliers, are not directly observable and cannot be easily measured empirically. They are judgements informed by published guidance and comparable evidence from other schemes. Where these parameters are applied, the assessment will present a range rather than a single point estimate and will show how the results change at each end of that range.

11.9.5.4 A number of policy and regulatory matters that are material to the results of this assessment lie outside the Applicant's control. These include business rates retention arrangements, the economic regulation of the airport, aviation policy and any future carbon constraints on aviation demand. Where a conclusion is sensitive to a particular policy assumption, this will be identified and explained.

11.9.5.5 Some operator and airline data may be commercially confidential and may not be publishable in the form in which it is received. Where this constrains what can be evidenced in the chapter, that limitation will be stated clearly, rather than substituting a weaker public-domain proxy for the primary source without explanation.

11.10 Proposed Approach to Mitigation

11.10.1.1 Mitigation will be considered in three broad stages: primary, secondary and tertiary mitigation.

- Primary mitigation means measures built into the design of the Proposed Development from the outset. This may include changes to the location, layout, phasing or construction approach to avoid or reduce negative effects before they arise.
- Secondary mitigation means additional measures introduced to reduce effects that cannot be fully designed out. These measures are usually developed through the assessment process and may include management plans, targeted support for affected businesses, or measures to reduce construction disruption.
- Tertiary mitigation means standard controls that are expected to be implemented as a matter of good practice or legal requirement. This may include measures secured through the Draft Code of Construction Practice, planning conditions, environmental permits or other established regulatory controls.

11.10.1.2 The first approach is to avoid or reduce negative impacts by changing the design of the Proposed Development itself. Where an impact cannot be designed out, specific measures are introduced to manage and offset it. The assessment of impacts will be made on the basis that these embedded mitigation measures are in place.

11.10.1.3 The initial assessment will take account of primary mitigation built into the Proposed Development and tertiary mitigation provided through standard controls. Where a likely significant effect is identified, secondary mitigation will be considered and the effect remaining after those measures, the residual effect, will be assessed. Mitigation measures will be refined through consultation with local stakeholders, businesses and authorities so that they respond to local circumstances.

11.10.1.4 Some practical measures that may be considered include:

- Managing construction impacts on residents and businesses: Construction inevitably disrupts local areas. To manage this, a **Draft Code of Construction Practice (CoCP)** will be implemented (tertiary mitigation). This document sets out clear rules for contractors to minimise noise, dust, and traffic.
- Visitor accommodation markets: A major construction project requires a large workforce. If too many non-local workers move into the area at once, they can place pressure on local housing and price out residents. To prevent this, a **Temporary Workforce Accommodation Strategy** will be developed (secondary mitigation). This strategy will outline how the accommodation needs of the non-home-based workforce would be managed.
- Supporting displaced businesses: Where the development displaces existing businesses, good mitigation measures should aim to protect the local economy. This can include measures such as re-providing commercial floorspace within the Proposed Development (primary mitigation). However, building new space takes time. To support businesses during this transition, a clear compensation and property offer would be drafted (secondary mitigation). These policies will outline the practical and financial support available to help displaced businesses relocate or adapt.
- Maximising local economic benefits: Mitigation is not just about reducing harm. It is also about securing benefits. The Proposed Development will create significant economic opportunities, but local people can only access them if they have the right skills. An **Employment and Skills Strategy** will be developed to build a local training and employment pipeline. This strategy would be refined with local education providers and councils to ensure it targets the right sectors.

11.10.1.5 In addition to the environmental topics that form part of the ES, a range of supplementary assessments and mitigation strategies will be prepared which will inform the assessment of effects for the economics and employment environmental topic. Key documents associated with the economics and employment assessment that form part of the DCO submission are listed below, and mitigation measures suggested as part of these documents will be referred to in this Chapter where relevant:

- **Economic Growth Strategy:** This report will estimate the economic impacts of the Proposed Development, along with its importance in a local, regional and national economic growth context.
- **Equality Impact Assessment** This report will present findings on the effects that the Proposed Development is estimated to have on groups of people with protected characteristics as defined by the Equality Act 2010.
- **Employment and Skills Strategy:** This report will provide the framework through which the Proposed Development intends to maximise positive outcomes on the employment and skills levels of the local population. It also provides examples of the Applicant's track record in meeting employment and skills targets and objectives.
- **Temporary Workforce Accommodation Strategy:** This study will consider the types and quantum of temporary accommodation that might be required by

non-home-based construction workers during Heathrow West's construction phase. It then presents a range of accommodation options that could be brought forward on which the Applicant is consulting, in order to arrive at a finalised strategy to be submitted with the DCO.

11.11 Summary

Table 11-22: Summary

Phase	Scoped In Elements	Scoped Out Elements
Economics and Employment: Construction	• Potential temporary or permanent displacement of businesses or commercial activity including property, land and minerals • Potential effects on the deliverability of strategic land allocations • Potential effects on sustainability or viability of businesses (including agricultural businesses) resulting from the Proposed Development (such as temporary or permanent loss of catchment population, change in environment, or severance as a result of changes to access) • Disruption to residents and their economic activity, through environmental changes and changes in access (e.g. severance and journey time) to/from employment locations • Potential temporary effect of employment generation and effects on businesses in the construction supply chain • Potential effects of new construction employment on the labour market, skills and training (apprenticeships) • Potential effects on the demand for visitor accommodation	• Potential effects on house prices

Phase	Scoped In Elements	Scoped Out Elements
Economics and Employment: Operational	• Potential wider effects on employment and the economy through direct influence (e.g. jobs and businesses supported directly related to the operation of the Airport), indirect influence (growth in business and jobs supported in the Airport's supply chain) and induced influence (jobs and businesses supported as a result of expenditure on goods and services) of expansion • Potential effects of new employment and business generated by the Proposed Development on skills and training (e.g. apprenticeships) in or related to the operational development • Potential additional effects on employment and the economy through catalytic effects at regional and national scale, as a result of improved connectivity resulting in additional trade, foreign direct investment and tourism • Potential for local fiscal and business community effects, specifically local retention of business rates and changes to the composition of the local business base, as a direct result of the Proposed Development • Potential effects of increased competition on airlines and airline users (profits and fares) • Potential effects on the local and wider economy as a result of significant residual environmental effects which have the potential for economic consequences (including transport/traffic effects)	• Potential effects on the deliverability of strategic land allocations • Potential effects on house prices

Environmental Impact Assessment Scoping Report

Chapter 12

Recreation

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12 Recreation

12.1 Introduction

12.1.1.1 This Chapter of the Environmental Impact Assessment (EIA) Scoping Report has been prepared by Volterra Partners LLP and sets out the likely significant recreation effects produced by the Proposed Development which will be reported in the Environmental Statement (ES). The recreation assessment will identify potential effects from the Proposed Development on recreational spaces and routes, and their users.

12.1.1.2 Recreation is presented as a standalone chapter within this ES. This reflects the particular nature of the receptors. The receptors of interest here are recreational spaces and routes, and the people who use them. The chapter will specifically assess how the value that people derive from using them may be impacted by the Proposed Development (see **Table 12-7**). That value depends on three things at once: whether the space or route physically remains, whether it can still be reached, and whether its quality and the quality derived from it by the user remains the same or changes.

12.1.1.3 No other technical chapter considers all three together. For example, disciplines such as noise, transport and landscape look at recreation through their own lens, and none are designed to draw the three together into a single judgement about what a change means for the person using the space.

12.1.1.4 A footpath can survive intact and remain fully accessible, yet still lose its recreational value if the experience of walking it changes for the worse. A route can become quieter and more pleasant, yet still fail as a recreational asset if it is severed from the community it serves. Only a dedicated recreation chapter can weigh physical presence, accessibility and amenity together, and reach a defensible conclusion on the significance of effects for recreational users.

12.1.1.5 The effects in this chapter interact strongly with the effects in the following chapters insofar as they reflect 'population and human health' effects that are required to be assessed by EIA regulations.

- **Chapter 10: Community** – this chapter assesses the likely potential significant effects of the Proposed Development with respect to community receptors. This includes effects on residents and their homes, community facilities and their users, and public services and their users.
- **Chapter 11: Economics and Employment** – this chapter assesses the likely potential significant effects of the Proposed Development with respect to socio-economics and employment receptors, including effects on businesses, employment, skills and the labour market, airlines and airline users, and the wider economy.

- **Chapter 14: Health and Wellbeing** – this chapter assesses the likely potential significant effects of the Proposed Development on health receptors, including the physical and mental health and wellbeing of people.

12.1.1.6 The chapter should be read in conjunction with the scoped effects of those chapters as the authors have aligned the assessments to ensure the reporting of effects across topic chapters is proportionate and focused. Reference to those chapters is made where relevant throughout. **Table 10.12** in **Chapter 10: Community** provides more detail on the differing effects covered in each chapter.

12.1.1.7 The approach to the assessment will be in overall conformity with that set out in **Chapter 4: Approach to EIA** and any planned divergence from the general approach is set out where relevant in this chapter. As well as being closely related to the population and health effects across the respective chapters, the recreation assessment will also draw on the findings of **Chapter 5: Air Quality and Odour**, **Chapter 15: Landscape and Visual Amenity**, **Chapter 19: Major Accidents and Disasters**, **Chapter 20: Noise and Vibration**, and **Chapter 21: Traffic and Transport**.

12.1.1.8 Nonetheless, the recreation assessment will draw on other technical chapters only where relevant to understanding effects on the recreational value and use of routes and spaces. It will not duplicate or re-assess matters such as traffic flows, noise levels, air quality, landscape character or health outcomes. Instead, those findings will be used as inputs where they influence the accessibility, scarcity or experiential quality of recreational receptors. The assessment will consider these factors in combination from the perspective of recreational users, to determine whether the recreational function and value of a route or space would be materially changed. This chapter should be read in conjunction with **Appendix 12.1** which sets out:

- An initial review of the baseline characteristics of the study areas considered in the recreation assessment for the purposes of establishing sensitivity of receptors, pertaining to: access to natural greenspace and levels of provision.
- Provisional identification of receptors to be used for the purposes of the assessment, including recreational routes and spaces, and their users potentially affected by the Proposed Development. This will be subject to refinement according to the rationale detailed in this chapter.

12.2 Policy, Legislation and Guidance

12.2.1.1 This section identifies the relevant topic specific policies that have informed the scope and, where relevant, the study area of the assessment presented in **Section 12.4**. Further information on the policies relevant to the EIA and their status is set out in **Section 1.9**, which should be read in conjunction with this chapter.

Table 12-1: Policy relevant to the recreation assessment

Relevant Policy / Legislation	Relevance to assessment
Policy – National	
Draft Heathrow Expansion National Policy Statement (HENPS) (2026)[1]	The draft HENPS forms the likely forthcoming policy once adopted for consenting a new northwest runway and associated infrastructure. It dictates that the environmental assessment must identify effects on existing open space, recreational land, and access networks including public rights of way and National Trails. The policy requires applicants to use local authority assessments or, where there are none, independent assessments to evaluate whether affected recreational assets are surplus to requirements and to assess impacts on public access to the countryside. Appropriate mitigation or compensation is set out as potentially including measures such as improving green infrastructure connectivity, and creating new access opportunities to offset any potential adverse effects.
Airports National Policy Statement (ANPS) (2018)[2]	The ANPS is the current adopted policy framework for expanding airport capacity in the South East of England. It requires environmental assessment to evaluate impacts on open space and recreational land, ensuring that existing assets are protected unless they are replaced by equivalent or better provision. The policy explicitly recognises public rights of way, National Trails, and open access land as vital recreational resources. To achieve compliance, applicants must identify adverse effects on these routes and assets, deliver appropriate mitigation measures, and explore opportunities to enhance public access.
National Planning Policy Framework (NPPF) (2026)[3]	The NPPF outlines government objectives for achieving sustainable development and creating healthy communities across England. The policy

[1] Department for Transport 2026. Draft Heathrow Expansion National Policy Statement. Published June 2026. Available at: https://www.gov.uk/ (accessed on: 18/08/2026).
[2] Department for Transport 2018. Airports National Policy Statement: new runway capacity and infrastructure at airports in the South East of England. Published June 2018. Available at: https://www.gov.uk/ (accessed on: 18/08/2026).
[3] Ministry of Housing, Communities and Local Government 2026. National Planning Policy Framework. Published August 2026. Available at: https://www.gov.uk/ (accessed on: 18/08/2026).

Relevant Policy / Legislation	Relevance to assessment
	framework provides strict protections for public rights of way and safeguards existing open space and recreational land from inappropriate development. The recreation assessment for the Proposed Development must accordingly identify local recreational assets and routes to evaluate how the proposed scheme might affect their amenity, usage and severance/connectivity.
Policy – Regional	
The London Plan (2021)[4]	The London Plan establishes that development proposals must protect existing open spaces and recreational facilities from unjustified loss, while simultaneously creating, enhancing, and promoting publicly accessible green infrastructure and integrated networks of recreational routes for walking and cycling.
The Draft London Plan (2026)[5]	The Draft London Plan establishes the draft spatial development strategy for Greater London, including policy direction with respect to sustainable growth, environmental resilience and the protection of public open space. The Plan underlines the importance of assessing impacts on existing recreational assets, including parks, waterways and active travel networks.
Policy – Local	
Hillingdon Local Plan Part 1 (2012) and Part 2 (2020)[6]	The adopted Local Plan in each authority area sets the planning policy and development management strategy for the area over the respective plan period. These documents include policies that are in broad conformity with the NPPF and the presumption in
Hounslow Local Plan (2015)[7] and Reg 19 Local Plan (2026)[8]	

[4] Greater London Authority 2021. London Plan. Published March 2021. Available at: https://www.london.gov.uk/ (accessed on: 20/08/2026).
[5] Greater London Authority 2026. The Draft London Plan. Published July 2026. Available at: https://www.london.gov.uk/ (accessed on: 20/08/2026).
[6] Hillingdon Council 2012. Hillingdon Local Plan: Part 1 - Strategic Policies and Part 2 - Development Management Policies. Published November 2012. Updated January 2020. Available at: https://www.hillingdon.gov.uk/local-plan (accessed on: 20/08/2026).
[7] London Borough of Hounslow 2015. Hounslow Local Plan 2015-2030. Published September 2015. Available at: https://www.hounslow.gov.uk/ (accessed on: 20/08/2026).
[8] London Borough of Hounslow 2024. Hounslow Local Plan 2020-2041. Published July 2024. Available at: https://www.hounslow.gov.uk/ (accessed on: 21/09/2026).

Relevant Policy / Legislation	Relevance to assessment
Ealing New Local Plan (2022)[9]	favour of sustainable development. Policies included in each plan pertain to the protection and provision of open space and recreational routes that maintain the ways community connect and provide opportunities for recreational, leisure, exercise, and the range of uses/services these assets provide.
Windsor and Maidenhead Local Plan (2022)[10]	
Buckinghamshire Draft Local Plan for Buckinghamshire (2026)[11]	
Runnymede Local Plan (2020)[12]	
Spelthorne Local Plan (2026)[13]	
Elmbridge Core Strategy (2011) and Development Management Plan (2015)[14]	
Slough Core Strategy Development Plan[15]	
Richmond Upon Thames Local Plan (2025)[16]	
South Bucks Local Plan (1999)[17]	

[9] Ealing Council 2022. Ealing's New Local Plan. Published November 2022. Available at: https://www.ealing.gov.uk/ (accessed on: 20/08/2026).
[10] Royal Borough of Windsor and Maidenhead 2022. Borough Local Plan 2013-2033. Published February 2022. Available at: https://www.rbwm.gov.uk/ (accessed on: 20/08/2026).
[11] Buckinghamshire Council 2026. Draft Local Plan for Buckinghamshire. Published July 2026. Available at: https://www.buckinghamshire.gov.uk/ (accessed on: 20/08/2026).
[12] Runnymede Borough Council 2020. Runnymede 2030 Local Plan. Published July 2020. Available at: https://www.runnymede.gov.uk/ (accessed on: 20/08/2026).
[13] Spelthorne Borough Council 2026. Spelthorne Local Plan 2024-2039/40. Published March 2026. Available at: https://www.spelthorne.gov.uk/article/20340/Local-Plan (accessed on: 20/08/2026).
[14] Elmbridge Borough Council 2011. Elmbridge Core Strategy and Local Plan Development Management Plan. Published July 2011. Updated April 2015. Available at: https://www.elmbridge.gov.uk/ (accessed on: 20/08/2026).
[15] Slough Borough Council 2008. Slough Local Development Framework Core Strategy 2006-2026. Published December 2008. Available at: https://www.slough.gov.uk/ (accessed on: 20/08/2026).
[16] London Borough of Richmond Upon Thames, 2025. Richmond Upon Thames Local Plan 2024-2039. Published October 2025. Available at: https://www2.richmond.gov.uk/ (accessed on: 21/09/2026)
[17] South Bucks District Council 1999. South Bucks Local Plan. Published March 1999, Consolidated September 2007 and February 2011. Available at: https://media.buckinghamshire.gov.uk/ (accessed on: 21/09/2026)

Table 12-2: Legislation relevant to the recreation assessment

Relevant Legislation	Relevance to assessment
Legislation - National	
Town and Country Planning Act 1990[18]	The Town and Country Planning Act 1990 is the overarching legislative framework for land development. The Act informs the assessment of recreational routes by establishing the legal thresholds required to stop up or divert existing public rights of way where it is necessary to enable development to be carried out. The legislation notes that open space should be taken to mean all open space of public value, including not just land, but also areas of water such as rivers, canals, lakes and reservoirs which offer important opportunities for sport and recreation and can also act as a visual amenity.
Environment Act 2021[19]	The Environment Act 2021 establishes legally binding targets for biodiversity, water quality, and air quality alongside expectations regarding biodiversity net gain. The legislation aligns with the assessment of recreational routes and green assets by promoting high quality green infrastructure.
Small Holdings and Allotments Act 1908[20]	The Small Holdings and Allotments Act 1908 determines the statutory duty of local planning authorities to provide and maintain sufficient allotment spaces to meet community demand. The legislation informs the baseline requirements for local amenity provision when existing community allotments face potential displacement from the Proposed Development. Mitigation planning must incorporate strategies for any lost allotment facilities to ensure local authorities remain compliant with their statutory provision duties.
Allotments Act 1925[21]	The Allotments Act 1925 addresses the strict disposal criteria for community growing spaces and mandates consent from the Secretary of State prior to removing any statutory allotment. The act shapes the assessment of recreational assets by requiring rigorous evaluation of how/if the Proposed Development displaces existing allotment holders and whether replacement facilities are necessary.

[18] UK Government 1990. Town and Country Planning Act 1990. Published May 1990. Available at: https://www.legislation.gov.uk/u (accessed on: 20/08/2026).
[19] UK Government 2021. Environment Act 2021. Published November 2021. Available at: https://www.legislation.gov.uk/ukpga/2021/30/contents (accessed on: 20/08/2026).
[20] UK Government 1908. Small Holdings and Allotments Act 1908. Published August 1908. Available at: https://www.legislation.gov.uk/ukpga/Edw7/8/36/contents (accessed on: 20/08/2026).
[21] UK Government 1925. Allotments Act 1925. Published August 1925. Available at: https://www.legislation.gov.uk/ukpga/Geo5/15-16/61/contents (accessed on: 20/08/2026).

Relevant Legislation	Relevance to assessment
Allotments Act 1950[22]	The Allotments Act 1950 requires the protection of community land tenants by establishing a mandatory twelve-month notice period before an allotment lease can end. The legislation guides the evaluation of recreational assets by defining the temporal parameters for displacing community users during project construction phases.
Countryside and Rights of Way (CRoW) Act 2000[23]	The Countryside and Rights of Way Act 2000 directs designation and protection of open access land, common land, and statutory public rights of way. The legislation frames the assessment of recreational routes and assets by defining the legal access rights that development activities might temporarily sever or permanently impact.
Planning Act 2008[24]	The Planning Act 2008 establishes the development consent regime for nationally significant infrastructure projects. It enables a DCO to authorise the stopping up or diversion of highways and the creation, suspension or extinguishment of rights over land. Where a public right of way is extinguished, an alternative must be provided unless the Secretary of State is satisfied that one is not required. It also provides protections and, where applicable, replacement land requirements for affected common land, open space and allotments.

Table 12-3: Guidance relevant to the recreation assessment

Relevant Guidance	Relevance to assessment
Guidance - National	
Highways England (2020) Design Manual for Roads and Bridges LA 112: Population and human health[25]	The Highways England Design Manual for Roads and Bridges LA 112 Population and human health addresses the technical evaluation of infrastructure impacts on local populations. The guidance is informative about potential effects on recreational routes and assets albeit pertaining mainly to road infrastructure, and indicative of assessment frameworks with respect to the determination of sensitivity of receptors and magnitude of impact for similar source-pathway-receptor relationships.

[22] UK Government 1950. Allotments Act 1950. Published October 1950. Available at: https://www.legislation.gov.uk/ukpga/Geo6/14/31/contents (accessed on: 20/08/2026).
[23] UK Government 2000. Countryside and Rights of Way Act 2000. Published November 2000. Available at: https://www.legislation.gov.uk/ukpga/2000/37/contents (accessed on: 20/08/2026).
[24] UK Government 2008. Planning Act 2008. Published November 2008. Available at: https://www.legislation.gov.uk/ukpga/2008/29/contents (accessed on: 14/09/2026).
[25] Highways England 2020. Design Manual for Roads and Bridges LA 112: Population and human health. Published January 2020. Available at: https://www.standardsforhighways.co.uk/ (accessed on: 20/08/2026).

Relevant Guidance	Relevance to assessment
Highways England (2021) Design Manual for Roads and Bridges CD143: Designing for walking, cycling and horse-riding[26]	The guidance sets out qualities and conditions of recreational routes and assets and therefore potential approaches to assessment.
Department for Environment, Food and Rural Affairs (DEFRA) Environmental Improvement Plan (2025)[27]	The Environmental Improvement Plan 2025 establishes the strategy of the government to restore natural habitats and improve inclusive public access to green spaces. Goal 10 focuses on the reduction of physical barriers and requires public access to nature near residential areas. This directly influences the assessment of recreational routes and assets by requiring the assessment to identify existing public rights of way and assess how the Proposed Development might disrupt or enhance these connections.
Planning Practice Guidance (PPG): Open space, sports and recreation facilities, public rights of way and local green space (2014)[28]	The PPG on open space, sports and recreation facilities, public rights of way and local green space set out national planning principles for protecting and enhancing community recreational assets. This policy informs the assessment by establishing the requirement to identify potential impacts on public rights of way, national trails and designated local green spaces. The assessment must evaluate the baseline condition of these assets and their value.
Planning Practice Guidance: Natural environment (2025)[29]	The PPG on natural environment outlines guidance for protecting and enhancing green infrastructure and natural capital assets. This policy directly informs the assessment of recreational routes and assets because it identifies access to open spaces and outdoor recreation as essential ecosystem services that promote healthy communities.
Natural England Green Infrastructure	The Green Infrastructure Standards for England establishes a framework for planning, delivering and managing green and

[26] Highways England 2021. Design Manual for Roads and Bridges CD 143: Designing for walking, cycling and horse-riding. Published March 2021. Available at: https://www.standardsforhighways.co.uk/ (accessed on: 20/08/2026).
[27] Department for Environment, Food and Rural Affairs 2025. Environmental Improvement Plan. Published January 2025. Available at: https://www.gov.uk/ (accessed on: 20/08/2026).
[28] Ministry of Housing, Communities and Local Government 2014. Planning Practice Guidance: Open space, sports and recreation facilities, public rights of way and local green space. Published March 2014. Available at: https://www.gov.uk/ (accessed on: 20/08/2026).
[29] Ministry of Housing, Communities and Local Government 2025. Planning Practice Guidance: Natural environment. Published 2025. Available at: https://www.gov.uk/ (accessed on: 20/08/2026).

Relevant Guidance	Relevance to assessment
Framework (2023) Green Infrastructure Framework – Principles and Standards for England[30]	blue spaces, which includes green corridors and pedestrian routes. The policy informs the assessment of recreational assets by defining baseline capacity, proximity and quality criteria for publicly accessible greenspaces. For the purposes of the assessment, these metrics provide advice on how to measure community access to nature and outdoor recreation.
Fields in Trust (2024) Fields in Trust Standards: Creating great spaces for all.[31]	The Fields in Trust guidance provides best practice benchmark standards for open space provision against which existing and future provision can be assessed.
Guidance – Regional	
Greater London Authority Sustainable Transport, Walking and Cycling LPG (2022)[32]	The LPG on Sustainable Transport provides supplementary advice for London planning authorities on the safeguarding and enhancement of walking and cycling networks across the capital. Recreational routes and assets to be protected include established corridors, including the Walk London Network and the National Cycle Network. The guidance aligns with the approach of this assessment to evaluate pedestrian and cyclist connectivity to green spaces and local amenities.
Greater London Authority Play and Informal Recreation Supplementary Planning Guidance (SPG) (2012)[33]	The Shaping Neighbourhoods Play and Informal Recreation SPG sets out the strategic approach for delivering safe and accessible play spaces for children and young people across London. It establishes benchmark standards to assess existing recreational provision and identify local deficiencies in open space access. The guidance details the recommended approach to evaluation of how new developments alter established community spaces and the connectivity of active travel networks.
Greater London Authority Green Infrastructure And Open Environments: The All London	The SPG addresses the protection, enhancement and management of the multifunctional green infrastructure network across London. The policy promotes the integration of public open spaces, waterways and sustainable travel connections. For the assessment of recreational routes and assets, the

[30] Natural England 2023. Green Infrastructure Framework – Principles and Standards for England. Published January 2023. Available at: https://designatedsites.naturalengland.org.uk/ (accessed on: 20/08/2026).
[31] Fields in Trust 2024. Fields in Trust Standards: Creating great spaces for all. Published 2024. Available at: https://www.fieldsintrust.org/guidance (accessed on: 20/08/2026).
[32] Greater London Authority 2022. Sustainable Transport, Walking and Cycling London Plan Guidance. Published December 2022. Available at: https://www.london.gov.uk/ (accessed on: 20/08/2026).
[33] Greater London Authority 2012. Play and Informal Recreation Supplementary Planning Guidance. Published September 2012. Available at: https://www.london.gov.uk/ (accessed on: 20/08/2026).

Relevant Guidance	Relevance to assessment
Green Grid SPG (2012)[34]	document establishes a spatial framework that identifies existing strategic walking and cycling networks alongside areas deficient in open space.
Guidance – Local	
Hillingdon Open Space Strategy (2011)[35]	The Open Space Strategy 2011 to 2026 addresses the supply, demand, and quality of public open spaces and green corridors across the borough of Hillingdon. It establishes local standards for the quantity and accessibility of recreational assets to manage future population growth. This framework informs the environmental assessment of recreational spaces and routes by providing the baseline data and spatial priorities required to identify existing public access deficiencies.
Hounslow Green & Blue Infrastructure Strategy (2021)[36]	The Strategy sets out objectives, opportunities and considerations across six themes: parks and open spaces, nature recovery, access and connectivity, urban greening, blue infrastructure, and historic landscape and built heritage. This informs the environmental assessment of recreational spaces and routes by providing baseline data for the existing provision of green and blue infrastructure in Hounslow.
Ealing Green Spaces Strategy (2012)[37]	The Strategy audits the quantity and accessibility of green space in Ealing, providing results of community consultation on the value of parks in Ealing. This informs the environmental assessment of recreational spaces and routes by providing baseline data for the existing provision of green and blue infrastructure in Ealing.
Richmond upon Thames Open Space Report (2023)[38]	The Report audits the provision, accessibility, quality and value of parks and gardens, natural and semi-natural greenspace, amenity greenspace, provision for children, allotments, cemeteries/churchyards, civic space and green corridors in Richmond upon Thames. This informs the environmental assessment of recreational spaces and routes by providing

[34] Greater London Authority 2012. Green Infrastructure and Open Environments: The All London Green Grid Supplementary Planning Guidance. Published March 2012. Available at: https://www.london.gov.uk/ (accessed on: 20/08/2026).
[35] Hillingdon Council 2011. Open Space Strategy. Published 2011. Available at: https://www.hillingdon.gov.uk/ (accessed on: 20/08/2026).
[36] Hounslow Council 2021. Green and Blue Infrastructure Strategy. Published October 2021. Available at: https://parksforlondon.org.uk/ (accessed on: 22/09/2026).
[37] Ealing Council 2012. Green and Blue Infrastructure Strategy (2012-2017). Published November 2012. Available at: https://www.ealing.gov.uk/ (accessed on: 22/09/2026).
[38] Richmond upon Thames Council 2023. Open Space Report. Published April 2023. Available at: https://www.richmond.gov.uk/ (accessed on: 22/09/2026).

Relevant Guidance	Relevance to assessment
	baseline data for the existing provision of green and blue infrastructure in Richmond upon Thames.
Spelthorne Open Spaces and Biodiversity Strategy (2025)[39]	The Strategy provides policy and value frameworks relating to open spaces, a list of parks, and an assessment of standards and quality assessments for parks and open spaces. This informs the environmental assessment of recreational spaces and routes by providing baseline data for the existing provision of green and blue infrastructure in Spelthorne.
Royal Borough of Windsor and Maidenhead Open Space Study (2019)[40]	The Study assesses the quality, quantity and accessibility of existing open space, according to the degree to which it meets current and future needs. This informs the environmental assessment of recreational spaces and routes by providing baseline data for the existing provision of green and blue infrastructure in Windsor and Maidenhead.
South Bucks and Chiltern Councils Joint Open Space Study (2018)[41]	The Study provides an audit of green space quality and outlines future quantity and access challenges in South Bucks and Chiltern Districts. This informs the environmental assessment of recreational spaces and routes by providing baseline data for the existing provision of green and blue infrastructure in South Bucks.
Runnymede Green and Blue Infrastructure Supplementary Planning Document (SPD) (2021)[42]	The SPD provides the spatial framework and design principles for protecting and enhancing natural asset networks across the borough. This guidance is relevant to the assessment of recreational routes and assets through requiring new developments to maintain and improve public access to green spaces, walking trails and cycle paths.

12.3 Stakeholder Engagement

12.3.1.1 Care will be taken to ensure all key stakeholders with views and concerns regarding recreational effects have the opportunity to discuss and agree the details of the assessment in a meaningful and inclusive manner. This will include local authorities, custodian groups and bodies, user groups, and communities as

[39] Spelthorne Borough Council 2025. Open Spaces and Biodiversity Strategy (2025-2035). Available at: https://democracy.spelthorne.gov.uk/
[40] Royal Borough of Windsor and Maidenhead, 2019. Open Space Study. Available at: https://www.rbwm.gov.uk/ (accessed on: 22/09/2026).
[41] South Bucks and Chiltern Councils 2018. Joint Open Space Study. Published August 2018. Available at: https://media.buckinghamshire.gov.uk/ (accessed on: 22/09/2026).
[42] Runnymede Borough Council 2021. Green and Blue Infrastructure Supplementary Planning Document. Published November 2021. Available at: https://www.runnymede.gov.uk/ (accessed on: 20/08/2026).

users that (a) have direct overlap with the Proposed Development and (b) do not overlap with the Proposed Development but who are impacted by its current operations and/or would be impacted by the Proposed Development (given the networked nature of green and blue infrastructure and the scale of some assets that mean they provide services to communities across a wide area).

12.3.1.2 Extensive engagement was previously undertaken between November 2018 and December 2019 in relation to previous proposals for the Heathrow West scheme. Whilst the scheme has progressed, some fundamental points raised remain relevant including in relation to assessment approach and the potential impacts relating to disruption. Bodies engaged included:

- Colne Valley Regional Park Association: the organisation that looks after the large regional park to the west of Heathrow.
- Statutory environmental bodies: Natural England (the government's advisor on the natural environment), and the Canal and River Trust (the charity that looks after England's waterways).

12.3.1.3 It is intended that the above stakeholders will be re-engaged, and additional stakeholders will also be engaged to fully understand baseline characteristics, impact significance and approaches to mitigation to support the ES. These may include:

- National organisations, providers of standards and guardians of recreational/amenity receptors.
- Regional bodies responsible for setting guidance and policy on standards for recreational routes and space provision.
- Representatives of local users of recreational routes and spaces including walking, cycling and horse riding groups, local charities/proponents of recreational routes and assets, Parish Councils, Residents Associations and other community groups and individuals.

12.4 Study Area

12.4.1 Recreation assessment areas

12.4.1.1 The areas used for the recreation assessment are based on the scale at which recreation effects are deemed to be potentially significant. These are identified based on a review of likelihood/effect pathways (**Section 12.7**), proximity and direct land take, and interaction (including via connectivity) with the Scoping Boundary.

12.4.1.2 The assessment areas used in other EIA topics are also of relevance and will necessarily be considered throughout the assessment of recreation effects. For example, the assessment will be informed by the assessment areas used for the traffic and transport, landscape and visual amenity, noise and vibration, and air quality and odour assessments where standard benchmarks inform the areas of those respective effects on recreational routes and spaces and their users.

12.4.1.3 The assessment areas for the purposes of the recreation assessment and their rationale for inclusion including spatial extent and definition are shown in **Table 12-4**. Receptors which are important at the regional and national scale are inherently considered insofar as they are located within these assessment areas.

Table 12-4: Recreation assessment areas

Recreation assessment area	Geography	Definition and relevance to the assessment
Recreational Study Area (RecSA)	The RecSA comprises an area that includes the recreational routes and assets that are most likely to be directly and indirectly impacted by the Proposed Development by virtue of being functionally connected to the Scoping Boundary and/or representing the assets most likely to be utilised by the communities of the Inner Study Area (ISA). The RecSA extent is shown in **Figure 12.1.**	The Recreational Study Area (RecSA) has been defined to identify recreational routes, spaces and assets with a reasonable potential to be affected by the Proposed Development, either directly or indirectly. It provides a proportionate basis for identifying receptors with a plausible impact pathway and for assessing effects at the local scale, consistent with the scale at which such effects are expected to be considered in the draft HENPS. The RecSA comprises recreational routes, public rights of way, open spaces and other recreational assets where one or more of the following criteria apply: • they are directly intersected by the Scoping Boundary, including areas of temporary and permanent land take; • they lie within or are directly connected to communities identified as being affected by the DCO application via the Inner Study Area (ISA) defined in **Chapter 10: Community**; • they fall within 500 metres of the EIA Scoping Boundary, reflecting the approach in Standards for Highways LA 112 Population and Human Health. This recommends the study area for pedestrians, cyclists, equestrians and community effects be based on the project boundary, plus a 500-metre surrounding area, subject to extension or reduction where the likelihood of effects warrants this;[43] • they are directly connected to routes or spaces captured by the above criteria and have an

[43] Highways England, 2020. Design Manual for Roads and Bridges, LA 112: Population and Human Health. Published January 2020. Available at: https://www.standardsforhighways.co.uk/ (accessed on: 10/09/2026).

Recreation assessment area	Geography	Definition and relevance to the assessment
		immediate functional relationship with them, such that they could reasonably be used as part of a continuous recreational activity. This may include, for example, national trails outside the Inner Study Area (ISA) that connect directly with affected public rights of way or open spaces. Where major severance features or clear settlement/infrastructure boundaries occur, these have been used to define the outer extent of the RecSA where they represent a reasonable limit to recreational connectivity such that more distant sections of routes or spaces are not expected to have a feasible significant impact pathway. The RecSA therefore represents the area within which recreational routes and spaces have been scoped for the purposes of identifying potential significant recreation effects. It does not constitute a fixed or exhaustive list of all receptors to be assessed. As outlined in **12.4.1.4,** the RecSA may be reviewed and, where appropriate, extended where evidence indicates a potential for significant effects, including effects arising from changes in access, connectivity, severance or environmental amenity.
Community Areas (CA)	CAs are representative contiguous and identifiable neighbourhoods that have been determined within the community assessment (**Section 10.4**) through consideration of functional settlement geographies and coherent communities on	The rationale for the definition of the Community Areas is provided in **Section 10.4 of the Scoping Report**. These areas are deemed relevant to the recreation assessment on the basis that the users of recreational routes and spaces are often likely to be residents of the CAs. The areas also correspond to the local scale at which effects are expected to be assessed within the draft HENPS.

Recreation assessment area	Geography	Definition and relevance to the assessment
	which community effects could occur. The CAs are shown in **Figure 12.1**.	
Inner Study Area (ISA)	The ISA combines the 21 CAs being assessed into one area. This is shown in **Figure 12.1**.	The ISA represents the aggregate primary area where direct socio-economic effects are likely to be experienced. The area also corresponds to the local scale at which effects are expected to be assessed within the draft HENPS.

Rationale for refining the recreation assessment areas

12.4.1.4 The scoping exercise has identified an RecSA that is deemed to be cautiously proportionate in scale relative to the Scoping Boundary and the currently available level of information confirmed with respect to scheme design, and the specific details of construction and operation activities. However, it is recognised that the area will need to be refined (guided by principles below) to ensure the assessment is proportionate and relevant to a scale at which potentially significant effects would occur, and this may be smaller or different in extent than the current RecSA.

12.4.1.5 The RecSA is subject to refinement based on the following principles:

- Whether there is a clear likely significant effect pathway (relating to the scoped in recreation effects) based on the nature of works within the Scoping Boundary.
- Further stakeholder engagement reveals that effects could be potentially significant in an area not currently included.
- Additional receptors are identified through further engagement, feedback, site visits and desk-based studies.
- Initial environmental information across other ES topics that show likely significant effects in areas not currently included which are relevant to recreation effects.
- The assessment of the area would be disproportionate because no likely significant effects would be expected to occur (through a combination of very low sensitivity receptors and/or low magnitude impacts).
- The effect on a receptor in a specific area is sufficiently assessed through other environmental topics, in the interests of avoiding duplication.

12.4.1.6 The recreation assessment also relies on the Community Areas as defined through the community assessment and these areas are therefore also subject to

refinement according to the rationale set out in **Section 10.4** of **Chapter 10: Community**.

12.5 Sources of Data used in Scoping

12.5.1.1 The scoping of recreation effects has been informed by a review of data sources relevant to recreation receptors within the study areas. These sources have been used to perform an initial appraisal of the existing baseline, identify relevant recreation receptors, understand current recreation access conditions, and determine the likely scope of potentially significant effects requiring further assessment. The baselining exercise has relied heavily on spatial data.

12.5.1.2 Whilst the existing baseline sets out current conditions within the recreation assessment areas, the future baseline assesses a projection of future conditions without the Proposed Development, based on available information on future plans and knowledge of historic land uses. Additional details on their relevance to the assessment methodology will be provided in **Sections 12.6 and 12.9**.

12.5.2 Baseline Sources

12.5.2.1 **Table 12-5** outlines the data sources that have been used as part of this scoping assessment. The baseline information derived from these sources is presented in **Section 12.6** and **Appendix 12.1**.

Table 12-5: Data sources used for scoping

Source	Data	Relevance to the assessment
Natural England	Access to green and blue space[44] Green Infrastructure Framework[45] Principles and standards[46]	Used to identify green spaces as recreational receptors Used to establish existing conditions with the Community Areas, as well as characterise the RecSA
Ordnance Survey	OS Open Zoomstack[47]	Used to identify green spaces as recreational receptors

[44] Natural England 2026. Access to green and blue space in England. Published March 2026. Available at: https://www.gov.uk/ (accessed on: 20/08/2026).
[45] Natural England 2026. Green Infrastructure Framework. Published 2026. Available at: https://designatedsites.naturalengland.org.uk/ (accessed on: 20/08/2026).
[46] Natural England 2023. Green Infrastructure Framework – Principles and Standards for England. Published January 2023. Available at: https://designatedsites.naturalengland.org.uk/ (accessed on: 20/08/2026).
[47] Ordnance Survey 2026. OS Open Zoomstack. Published 2026. Available at: https://www.ordnancesurvey.co.uk/ (accessed on: 20/08/2026).

Source	Data	Relevance to the assessment
	OS MasterMap Topography Layer[48]	
Local Authorities' Definitive Maps	London Borough of Hillingdon Definitive Map[49] London Borough of Hounslow Definitive Map[50] Surrey County Council Definitive Map[51] Slough Borough Council Public Rights of Way Definitive Map[52] Royal Borough of Windsor and Maidenhead Definitive Map[53] Buckinghamshire Council Public Rights of Way Map[54] London Borough of Richmond upon Thames Definitive Map[55] London Borough of Ealing Planning Map[56]	Used to identify public rights of way as recreational receptors
Planning and Housing Data in England	Local nature reserve[57]	Used to identify nature reserves and parks and

[48] Ordnance Survey 2026. OS MasterMap Topography Layer. Published 2026. Available at: https://www.ordnancesurvey.co.uk/ (accessed on: 20/08/2026).
[49] London Borough of Hillingdon 2026. Definitive Map and Statement. Published 2026. Available at Hillingdon Council (accessed on: 20/08/2026).
[50] London Borough of Hounslow 2026. Definitive Statement of Public Rights of Way. Published 2026. Available at London Borough of Hounslow (accessed on: 20/08/2026).
[51] Surrey County Council 2026. Countryside interactive map. Published 2026. Available at Countryside interactive map - Surrey County Council (accessed on 20/08/2026).
[52] Slough Borough Council 2026. Public Rights of Way. Published: 2026. Available at: Public rights of way – Slough Borough Council. (accessed on: 20/08/2026).
[53] Royal Borough of Windsor and Maidenhead 2026. Definitive maps of public rights of way. Published: 2026. Available at: Royal Borough of Windsor and Maidenhead. (accessed on: 20/08/2026).
[54] Buckinghamshire Council 2026. Public rights of way map. Published: 2026. Available at: PROW Map (accessed on: 20/08/2026).
[55] London Borough of Richmond upon Thames 2026. Definitive Statement of Public Rights of Way. Published 2026. Available at https://www.richmond.gov.uk/highway_land_searches#prow (accessed on: 22/09/2026).
[56] London Borough of Ealing 2026. GIS Maps. Published 2026. Available at: https://maps.ealing.gov.uk/ (accessed on: 22/09/2026)
[57] Natural England 2026. Local Nature Reserves in England. Published 2026. Available at: https://designatedsites.naturalengland.org.uk/ (accessed on: 20/08/2026).

Source	Data	Relevance to the assessment
	National nature reserve[58] Historic England Historic parks and gardens [59]	gardens as recreational receptors
Walk, Wheel, Cycle Trust[60]	National Cycle Network	Used to identify cycle routes as recreational receptors
National Trails[61]	Thames Path	Used to identify trails as recreational receptors
Transport For London	Cycling Infrastructure Database[62]	Used to identify cycle routes as recreational receptors
Greater London Authority	Metropolitan Open Land[63] Waterways[64] Colne Valley Park[65] Local open space[66]	Used to identify green spaces and waterways as recreational receptors
Canal and River Trust Network Map[67]	Canal and River Trust Open Data	Used to identify canals as recreational receptors

[58] Natural England 2026. National Nature Reserves in England. Published 2026. Available at: https://designatedsites.naturalengland.org.uk/ (accessed on: 20/08/2026).
[59] Historic England 2026. Register of Historic Parks and Gardens of Special Historic Interest in England. Published 2026. Available at: https://historicengland.org.uk/listing/the-list/ (accessed on: 20/08/2026).
[60] Walk Wheel Cycle Trust 2026. National Cycle Network. Published 2026. Available at: https://www.walkwheelcycletrust.org.uk/ (accessed on: 23/08/2026).
[61] National Trails 2026. Thames Path National Trail. Published 2026. Available at: https://www.nationaltrail.co.uk/en_GB/trails/thames-path/ (accessed on: 20/08/2026).
[62] Transport for London 2019. Cycling Infrastructure Database (CID). Published August 2019. Available at: https://cycling.data.tfl.gov.uk/ (accessed on: 20/08/2026).
[63] Greater London Authority 2021. Metropolitan Open Land (London Plan 2021 Policy G3). Published March 2021. Available at: https://www.london.gov.uk/ (accessed on: 20/08/2026).
[64] Greater London Authority 2026. London Datastore. Published 2026. Available at: Planning Local Plan Data | London Datastore (accessed on: 20/08/2026).
[65] Greater London Authority 2026. London Datastore. Published 2026. Available at: Planning Local Plan Data | London Datastore (accessed on: 20/08/2026).
[66] Greater London Authority 2026. London Datastore. Published 2026. Available at: Planning Local Plan Data | London Datastore (accessed on: 20/08/2026).
[67] Canal and River Trust 2026. Canal and River Trust Network Map. Published 2026. Available at: https://canalrivertrust.org.uk/enjoy-the-waterways/canal-and-river-network (accessed on: 20/08/2026).

12.6 Baseline conditions

12.6.1.1 Baseline data has been used in this scoping exercise to establish existing conditions with the Community Areas, as well as characterising the RecSA in comparison to national benchmarks. Spatial analysis utilising secondary data has identified the receptors that are proposed to be considered in the assessment.

12.6.2 Baseline Description

12.6.2.1 The RecSA is traversed by an extensive network of recreational routes and has a range of recreational spaces. Those currently identified as relevant receptors to the recreation assessment are shown in **Figures 12.2**. The recreational routes and assets that have been identified for the assessment will be refined through ongoing assessment activities, including stakeholder engagement. A fuller list of these receptors is provided in **Appendix 12.1**. The list provided is intended to be indicative of the receptors to be included at this stage. It has been presented at this stage to show the potentially affected recreation receptors to enable meaningful engagement but is subject to change as the Proposed Development design evolves and the status of the receptors is confirmed.

12.6.2.2 Accessibility, scarcity and value of recreational routes and assets are key determinants of sensitivity (with regard to assets and users) that will be investigated in further detail, per receptor group/assessment area for the purposes of the preliminary assessment. An initial review of access standards (at the doorstep, local and neighbourhood levels, and in aggregate) shows indicatively that the accessibility and therefore scarcity of green and blue space varies substantially across the different community areas.[68] **Figures 12.3, 12.4, 12.5, and 12.6** present this baseline data in map form. The value of recreational routes and assets may be determined by their usership. Information on the value of recreational routes and assets is reliant on surveys and has not been accessed at this stage.

Table 12-6: Access to green and blue space across assessment areas (shading relative to the RecSA, where red indicates provision in the CA is worse compared to RecSA, and green: better.)

Recreational assessment area	Households meeting green and blue space access standards (%)			
	Neighbourhood	Local	Doorstep	All
RecSA	**78%**	**15%**	**15%**	**8%**
ISA	**72%**	**14%**	**14%**	**7%**

[68] According to Natural England's Green Infrastructure Framework: the 'doorstep' standard refers to access to green/blue space of at least 0.5 hectares ('ha') within 200m from the home; 'local' refers to access to green/blue space of at least 2 ha within 300m, and 'neighbourhood' refers to access to a space of at least 10 ha within 1km.

Recreational assessment area	Households meeting green and blue space access standards (%)			
	Neighbourhood	Local	Doorstep	All
CA: Iver and Richings Park	94%	2%	7%	1%
CA: Harlington	1%	19%	15%	0%
CA: North Staines	100%	28%	42%	19%
CA: Stanwell	75%	13%	20%	6%
CA: Stanwell Moor	100%	0%	16%	0%
CA: Poyle	24%	0%	5%	0%
CA: Colnbrook	100%	0%	1%	0%
CA: Brands Hill	99%	0%	1%	0%
CA: Hounslow (West and Heath)	65%	15%	10%	7%
CA: Feltham North	81%	26%	21%	17%
CA: Bedfont	99%	27%	27%	18%
CA: Heston	62%	11%	11%	8%
CA: Cranford	81%	18%	7%	7%
CA: Cranford Cross	72%	23%	17%	12%
CA: Hayes	54%	16%	13%	3%
CA: Longford	97%	0%	0%	0%
CA: Harmondsworth	55%	0%	22%	0%
CA: Sipson	0%	0%	17%	0%
CA: West Drayton	63%	3%	5%	1%
CA: Horton and Wraysbury	92%	5%	12%	2%

Recreational assessment area	Households meeting green and blue space access standards (%)			
	Neighbourhood	Local	Doorstep	All
CA: Langley	85%	19%	17%	9%

Future Baseline

12.6.2.3 The future baseline with respect to physical assets refers to those in situ and their characteristics and conditions at the relevant time of assessment. Long term projections and forecasts with regard to physical assets are inherently uncertain. Forthcoming development insofar as it introduces, removes, interrupts or in some way qualitatively or quantitatively changes recreational routes and spaces will be a key determinant on the future baseline of such receptors at the time of assessment.

12.6.2.4 Projections of characteristics/sensitivity of users of recreational routes and spaces will be utilised in the assessment. Further assessment and data collection, including through stakeholder engagement, will allow for refinement of understanding of the future baseline. This will draw on future baseline data collection undertaken through the other environmental topic assessments that the recreation assessment draws on.

12.6.2.5 The recreation assessment insofar as the local population are users of recreational routes and spaces will take into account demographic change over time. This will be underpinned by population projections that are available at wider geographies. Projections of demographic change are rarely available at local geography scales due to the inherent uncertainty with anticipating change at a hyperlocal scale. However, methods of apportioning projections for wider areas will be applied. This will enable understanding of how demand for recreational routes and spaces will change over time.

12.7 Likely Significant Effects Requiring Assessment

12.7.1.1 The role of the scoping exercise is to identify recreation effects which are potentially significant in each of the phases of the Proposed Development. This is done to enable a proportionate assessment that provides decisionmakers with appropriate evidence to weigh the balance of effects and their relative benefits and disbenefits (adverse and beneficial effects).

12.7.1.2 Without undertaking a full assessment on the effects on each receptor at this stage, potentially significant effects are considered to be those which have a reasonable/likely source-pathway-receptor relationship for the Proposed Development i.e. there is a feasible pathway by which receptors could be affected.

These pathways are therefore also presented. This provides an indication of the way the effects are conceptualised and will be assessed in the later assessments.

12.7.1.3 Potential effects are identified through a review of the types of effect included in best practice, and legislation and guidance where available (noting there is no specific legislation on the types of effects to be considered in a recreation assessment for the purposes of EIA). This exercise has drawn on the guidance set out in **Table 12-3**. Given the close relationship of the community, traffic and transport, human health, and economics and employment assessments, applicable guidance to those topics has also been reviewed.

Receptors

12.7.1.4 The receptors identified in **Table 12-7** may experience likely significant effects as a result of the Proposed Development. The list of receptors will be kept under review during the EIA as more detailed information is obtained during baseline surveys and other forms of data collection by stakeholder engagement and other environmental topic assessments, and will be reflected in the ES.

12.7.1.5 Receptors for the purposes of the recreation assessment are the assets themselves and the users of them. Receptors that have been identified for the assessment are shown in **Table 12-7**.

Table 12-7: Receptor groups and types included in the recreation assessment

Receptor type	Receptor
Recreational routes and spaces	• Public Rights of Way (PRoW) • Long distance walking routes • Nationally promoted walks • Regionally promoted walks • Locally promoted walks • National cycle routes, whose use is primarily recreational rather than commuting • Regionally promoted cycle routes, whose use is primarily recreational rather than commuting • Locally promoted cycle routes, whose use is primarily recreational rather than commuting • Amenity green space • Cemeteries and churchyards • Parks and gardens • Children's play areas • Waterbodies • Green corridors • Natural and semi-natural green space
Users of recreational	• Recreational walkers, including dog walkers and runners • Recreational cyclists

Receptor type	Receptor
routes and space	• People using recreational play facilities, particularly children and young people • People participating in equestrian activities • People using churchyard and cemetery facilities • Other recreational users, including people using spaces for water-based activities, bird watching, reading, eating, meeting up with friends, meditation

12.7.1.6 Routes that are used primarily for the purpose of commuting will be assessed as part of the traffic and transport assessment (**Chapter 21**). Businesses that rely on recreational routes and spaces and effects on those in terms of disruption will be assessed as part of the economics and employment assessment (**Chapter 11**).

12.7.1.7 The recreational routes and spaces that have been provisionally identified for the assessment are set out in **Appendix 12.1**. The rationale for including an indicative list and the potential ways this will be refined as the assessment is progressed is provided in **Section 12.6**.

Effect pathways

12.7.1.8 To determine effects which are potentially significant, consideration has been given to the source-pathway-receptor pathways by which recreation effects could occur. These are shown in **Table 12-8**.

Table 12-8: Recreation effect pathways

Source	Pathway	Receptor	Phase
Land use change resulting from temporary construction activity and permanent development	Direct temporary or permanent loss, closure, severance or physical degradation of recreational routes and spaces within or adjoining the Proposed Development, and the resulting impact on the accessibility, scarcity and value of those spaces and routes for their users	Recreational routes and spaces, and their users	Construction Operation
Construction activity, site fencing and hoarding, construction traffic management and permanent infrastructure	Changes in accessibility and journey length due to temporary or permanent diversions, severance or physical barriers	Users of recreational routes and spaces	Construction Operation

Source	Pathway	Receptor	Phase
Construction noise, vibration, dust and visual change from construction plant and temporary structures; operational aircraft noise, visual change and flight paths	Changes to the amenity value of recreational routes and spaces via environmental changes that alter user enjoyment of those assets	Users of recreational routes and spaces within a nearby area of construction and operational activities	Construction Operation
Displacement of recreational users and changes to catchment populations arising from land use change and access restrictions	Behavioural and wellbeing changes due to reduced or altered opportunities for physical exercise, outdoor recreation and access to nature, with effects on users less able to adapt or substitute affected assets	Users of recreational routes and spaces	Construction Operation

12.7.2 Construction

12.7.2.1 There are a number of potentially significant effects on recreation receptors that could occur during the construction phase of the Proposed Development. The activities, effects, receptors on which these effects are likely to occur, the justification for scoping these effects into the assessment, and the study areas at which these effects are proposed to be assessed are shown in **Table 12-9**.

Table 12-9: Potentially significant recreation effects during the construction phase

Activity	Effect	Receptor	Pathway	Study area
Displacement /loss or other change to recreational routes and spaces as a result of land use change and construction activity	Potential temporary and permanent effects on the physical extent, condition and function of recreational routes and spaces where they are displaced by land required for the	Recreational routes and spaces, and their users	Land use change directly removes, closes or degrades recreational assets within or adjoining the construction boundary, reducing their extent or function and the recreational opportunities available to users	CA, ISA, RecSA

Activity	Effect	Receptor	Pathway	Study area
	Proposed Development			
Displacement /loss or other change to recreational routes and spaces as a result of land use change and construction activity	Potential temporary and permanent effects on the ability of users to reach and move between recreational routes and spaces, including changes in journey length due to severance, diversion or realignment	Users of recreational routes and spaces	Changes to the physical layout of the area alter the routes by which users reach recreational assets, increasing journey length and reducing accessibility for some users or changing established journeys	CA, ISA, RecSA
Construction activity and associated environmental changes	Potential temporary and permanent effects on the amenity and experiential quality of recreational routes and spaces arising from construction noise, vibration, dust and visual change	Users of recreational routes and spaces	Environmental effects of construction activity reduce the quality of the recreational experience for users of routes and spaces adjacent to the construction boundary	CA, ISA, RecSA
Displacement /loss or other change to recreational routes and spaces as a result of land use change and construction activity	Potential temporary and permanent effects on the catchment areas and user groups of recreational routes and spaces	Users of recreational routes and spaces	Changes to the extent and accessibility of recreational assets reduce the catchment populations of those assets	CA, ISA, RecSA

12.7.3 Operation

12.7.3.1 There are a number of potentially significant effects on recreation receptors that could occur during the construction phase of the Proposed Development. The activities, effects, receptors on which these effects are likely to occur, the

justification for scoping these effects into the assessment, and the study areas at which these effects are proposed to be assessed are shown in **Table 12-10**.

Table 12-10: Potentially significant recreation effects during the operation phase

Activity	Effect	Receptor	Pathway	Study area
Permanent displacement /loss or other change to recreational routes and spaces as a result of permanent land take	Potential permanent effects on the physical extent, condition and function of recreational routes and spaces where they are permanently displaced by the land required for the Proposed Development	Recreational routes and spaces, and their users	Permanent land take removes or permanently alters recreational assets within the development footprint, reducing the total extent of provision available to users once the Proposed Development becomes operational	CA, ISA, RecSA
Permanent displacement /loss or other change to recreational routes and spaces as a result of permanent land take	Potential permanent effects on the ability of users to reach and move between recreational routes and spaces, including lasting changes in journey length due to severance, diversion or realignment	Users of recreational routes and spaces	Permanent diversions alter the established alignment of routes in a lasting way, which may permanently reduce their directness, comfort or attractiveness relative to the original	CA, ISA, RecSA
Operational activities and associated environmental changes	Potential permanent effects on the amenity and experiential quality of recreational routes and spaces arising from operational aircraft noise, visual change and flight paths	Users of recreational routes and spaces	Operational environmental effects permanently alter the character of the recreational environment for users of routes and spaces, reducing the quality of the experience in a lasting way	CA, ISA, RecSA

Activity	Effect	Receptor	Pathway	Study area
Permanent displacement /loss or other change to recreational routes and spaces as a result of permanent land take	Potential permanent effects on the catchment areas and user groups of recreational routes and spaces	Users of recreational routes and spaces	Permanent changes to the extent and accessibility of recreational assets affect the catchment populations of those assets once the Proposed Development comes into operation	CA, ISA, RecSA

12.7.4 Decommissioning

12.7.4.1 The Proposed Development is intended to form a permanent part of Heathrow Airport. Decommissioning of the Proposed Development is not currently anticipated and no decommissioning activities, programme or parameters have been defined. The overarching approach to decommissioning is set out in **Chapter 4: Approach to EIA**.

12.7.4.2 If decommissioning were proposed in the future, removal or demolition activities could give rise to temporary effect pathways broadly similar to those associated with construction. Depending on the nature and location of the works, these could include changes in air quality, noise and vibration, traffic and access, community safety, land quality, flooding, open space, employment and income, access to services, and public understanding of risk. The relevant receptors would be determined by the location and extent of the future activities and the populations exposed.

12.7.4.3 However, in the absence of defined decommissioning proposals, it is not possible or proportionate at this stage to characterise the scale, duration, geographical extent or magnitude of these effects. Decommissioning is therefore not proposed for separate assessment within the Recreation chapter or inclusion as a series of individual effects in the likely significant effects table.

12.7.4.4 Any future decommissioning proposal would be expected to be subject to the planning, environmental assessment and regulatory requirements applicable at that time. This would provide the appropriate basis for assessing population health effects, identifying affected communities and vulnerable groups, and establishing proportionate mitigation, monitoring and community liaison arrangements. Where individual components of the Proposed Development have a defined design life or foreseeable replacement or removal requirement, these will be considered through the relevant technical assessment and reflected in the Recreation assessment only where a credible effect pathway is identified.

12.8 Effects Not Requiring Assessment

12.8.1.1 Effects on recreational routes and spaces located wholly outside the RecSA have been scoped out where there is no credible impact pathway between the Proposed Development and the route or space. This includes recreational routes that may have some level of connectivity to other routes or spaces within the RecSA but are expected to only be impacted by the Proposed Development in a negligible manner, such that a significant effect on its use, accessibility, connectivity or environmental amenity is not expected within the realms of proportionality. Such routes and spaces are therefore not considered further within this chapter. This position will be reviewed if further engagement with communities identifies a credible impact pathway or evidence that an effect could be greater than currently anticipated.

12.9 Proposed Approach to Assessment

12.9.1.1 This section sets out the proposed approach to assessment of the likely significant effects identified in **Section 12.7**.

12.9.1.2 There is no legislation or formal guidance on the approach to determining significance of recreation effects for the purposes of environmental impact assessment. However, it is widely agreed and accepted that the method conforms with the overarching EIA approach whereby significance is determined through the consideration of the sensitivity of the receptor and magnitude of impact. The significance of each effect is also considered to be a function of its nature: likelihood, duration (short to long term, temporary/permanent), frequency, and interaction (direct/indirect).

12.9.1.3 Effects can be characterised as beneficial (meaning they are likely to lead to a positive outcome or change compared to baseline conditions), or adverse (meaning they are likely to lead to a negative outcome or change compared to baseline conditions).

12.9.1.4 The receptors in this assessment as assets are highly variable in terms of function, purpose, use and quality. To provide a meaningful and comparable assessment, different quantitative and qualitative aspects will be used to define the sensitivity of receptors and magnitude of impact.

Approach to assessment

12.9.1.5 In the absence of a prescribed methodology, existing policy, standards and guidance are drawn on together with analysis and methods established for other large infrastructure and development projects, to inform the approach.

12.9.1.6 The approach to assessing likely significant effects in the preliminary assessment will therefore proceed through the following steps:

- Confirmation of receptors: the initial list of recreation receptors that have been identified (**Appendix 12.1**) through the scoping assessment will be subject to refinement and confirmed through additional desk-based and site visit investigation, as well as stakeholder engagement.
- Refinement of sensitivity and magnitude definitions through a review of policy, legislation, standards and guidance: national, regional, and local policies that govern the provision of recreational routes and assets applicable/available at the time of assessment will be reviewed, and assessment criteria framework refined for each effect pathway.
- Additional baseline data collection: the baseline and future baseline positions will be understood in more detail through additional analysis of the sources identified in this chapter.
- Surveys of users of recreational routes and amenity spaces: primary data collection activity where secondary data is unavailable will be conducted where necessary to understand usage patterns that will determine/inform sensitivity (frequency, purpose, spatial and temporal usage characteristics, scarcity and replicability) and potential impact magnitude (experiential, functional, amenity, habitual).
- Technical and stakeholder engagement: further engagement with key stakeholders and relevant groups/organisations will be undertaken to better understand requirements with respect to mitigation measures.
- Determining of significance of effects: scheme information will be applied to the refined assessment framework to determine whether effects are likely to be significant.
- Consideration of future baseline and scenarios: effects that apply to a different baseline position, noting the point at which an effect could occur could be different in future, will be taken into account. Uncertainty about the future will be accounted for by applying scenarios to assess potential impacts (as set out below).

12.9.2 Assessment Years

12.9.2.1 Assessment years which are indicatively proposed to be used for the purposes of the recreation and amenity assessment specifically are shown below. These will be defined and specified as scheme details with regard to the spatial extent and temporal activities are refined and finalised.

12.9.2.2 Different effects will arise as a result of the phasing of the different activities of the construction and operational phases. The interaction of the activities and their maximum interaction will be considered such that the reasonable worst case scenario in each regard is assessed, and this may be a different year per effect. Indicatively the assessment years per phase for the recreation assessment are:

- Construction phase:
  - Construction start year;
  - Reasonable worst-case scenario year: the maximum interaction of Proposed Development activities and the environmental effects (adverse, beneficial) occurring on the receptor; and/or

- Peak construction activity year(s): the maximum impact of construction activity, where different to the above years.

- Operation phase:
  - Operation start year; and/or
  - Reasonable worst-case scenario year: the maximum interaction of Proposed Development operational activities and the environmental effects (adverse, beneficial) occurring on the receptor;

Sensitivity

12.9.2.3 The sensitivity of a receptor refers to its ability to withstand or adapt to environmental change. The sensitivity of the receptor will be determined using a combination of primary and secondary data, stakeholder feedback, and professional judgement. This will draw on best practice, and other applicable/similar guidance such as the Design Manual for Roads and Bridges (which includes walking, cycling and horse-riding routes), Natural England, and Fields in Trust guidance.

12.9.2.4 A sensitivity level of either high, medium, low or negligible will be assigned to each relevant receptor. The sensitivity levels are characterised by the broad definition of effect levels shown in **Table 12-11**. Detailed definitions of the sensitivity levels pertaining to receptors being considered for each effect will be provided at preliminary assessment stage. This will utilise quantitative benchmarks where possible.

12.9.2.5 The sensitivity of recreational routes and assets and their users relate to qualitative and quantitative aspects of the following factors:
- Popularity/frequency: this factor refers how regularly the asset is used/visited;
- Replacement/rarity: this factor refers to the scarcity and uniqueness of the asset;
- Substitution: related to the above, this factor refers to the alternative options available;
- Local importance: this factor refers to the importance for communities and/or sensitive/vulnerable user groups; and
- Adaptability: this factor refers to the degree to which the asset could adapt to environmental change.

Table 12-11: Broad initial definition of sensitivity levels

Sensitivity	Initial definition
High	Assets of national or regional significance, such as National Trails, nationally or regionally promoted long distance routes, and regional parks. Such assets are of high community importance and possess distinctive characteristics that make a notable contribution to the wider recreational routes and spaces network. Users of assets are considered high priority, including those who depend on the assets for regular or daily recreation.

Sensitivity	Initial definition
	This category also encompasses vulnerable user groups, including elderly people, children and people with disabilities, who may be disproportionately affected by changes to baseline conditions. There is very limited potential for substitution of the asset, either because no reasonable alternatives exist in the assessment area or because alternatives would be substantially less convenient or offer a materially lower amenity value.
Medium	Assets that are important at the community level, such as district parks, locally promoted recreational routes, or sections of the PRoW network that connect communities and link to a wider network of routes. Such assets are valued locally and make a meaningful contribution to recreational provision in the assessment area. Users are likely to visit the asset regularly for recreational purposes and have a reasonable degree of dependence on the asset. Some alternative resources or routes are available within the assessment area, though these may require a noticeable detour or represent a reduction in the amenity value compared to the affected asset.
Low	Assets of low local importance, such as small open spaces, unpromoted sections of the PRoW network, or routes that are seldom used, fragmented or that offer limited recreational or utility value. Users visit such assets infrequently and are not particularly dependent on them for recreation or active travel. Equivalent alternative resources are readily available within the assessment area, meaning that changes to the asset would be unlikely to result in a material reduction in opportunities for recreation for users.

Magnitude

12.9.2.6 Magnitude refers to the scale, severity and permanence of an impact occurring on a receptor. The magnitude of the impact will be similarly determined using a combination of primary and secondary data, stakeholder feedback, and professional judgement. Following the approach taken to define sensitivity, best practice and applicable/similar guidance will be drawn on.

12.9.2.7 A magnitude level of either high, medium, low or negligible will be assigned to each relevant receptor. Broad definitions of the magnitude levels are provided in **Table 12-12**, which will be refined for each effect at the preliminary assessment stage. This will utilise quantitative benchmarks where possible.

12.9.2.8 The definition of magnitude levels in relation to effects on recreational routes and assets will relate to aspects of the following factors:

- Permanence: this factor refers to the reversibility of the impact;
- Severance: this factor refers to the role of the asset in physical connectivity of communities;
- Quality: this factor refers to the impact on the quality of the asset and the recreational and amenity value; and

- Perception: this factor refers to perceptual and experiential characteristics.

Table 12-12: Broad initial definition of magnitude levels

Magnitude	Initial definition
High	The impact would result in fundamental and largely irreversible changes to the conditions underpinning the receptor, causing a major alteration to its character or key features. In terms of severance, the asset would be substantially disconnected from the wider recreational network, with notable consequences for the physical connectivity of communities. The quality and recreational or amenity value of the asset would be greatly diminished, including through the total or near total loss of key elements or features such that the character of the baseline would be fundamentally altered. Perceptually, users would experience a substantial change to their recreational environment, resulting in a considerable shift in existing patterns and levels of use.
Medium	The impact would result in considerable but potentially reversible changes to the conditions underpinning the receptor, causing a reasonable alteration to its character or key features. In terms of severance, the asset would experience a meaningful reduction in its connectivity within the wider recreational network. The quality and recreational or amenity value of the asset would be modestly reduced through the loss or alteration of one or more key elements or features, such that the character of the baseline would be materially changed. Perceptually, users would experience a noticeable change to their recreational environment, resulting in a noticeable shift in existing patterns and levels of use.
Low	The impact would result in a discernible but limited change to the conditions underpinning the receptor, causing a minor alteration to its character or key features. In terms of severance, the connectivity of the asset within the wider recreational network would be slightly reduced but would remain broadly intact. The quality and recreational or amenity value of the asset would be slightly reduced, though the underlying character of the baseline would remain broadly similar. Perceptually, users would notice some change to their recreational environment, though this would result in only a slight shift in existing patterns and levels of use.
Very low	The Proposed Development would result in a barely discernible change to the conditions underpinning the receptor. The connectivity, character and recreational or amenity value of the asset would be negligibly affected, approximating to a no change situation. No material shift in existing patterns or levels of use would be anticipated.

Nature of effects

12.9.2.9 Additional characteristics are taken into account in the process of determining whether an effect on a receptor is significant. These include:

- Permanence, relating to whether an effect is either:
  - Temporary: its duration is limited and/or environmentally reversible
  - Permanent: it endures in perpetuity and/or is environmentally irreversible
- Duration, relating to the temporal aspect of the effect which is either:
  - Very short term: meaning the duration is expected to be less than one month;
  - Short term: meaning the duration of effect is expected between one month and up to one year;
  - Medium term: meaning the duration of effect is expected between one year and up to five years;
  - Long term: meaning the duration of effect is expected between over five years.

Determining significance

12.9.2.10 The significance of an effect is determined through the relationship between the sensitivity of a receptor and magnitude of impact. For the purposes of the recreation assessment the significance level is reflective of how a receptor experiences an environmental change. The significance levels are indicatively characterised per the description shown in **Table 12-13** below and can be defined as: major, moderate, minor, negligible or no effect. Those effects which are found to be moderate or major are deemed to be significant.

Table 12-13: Significance matrix

		Magnitude							
		High	Medium	Low	Very Low	Very Low	Low	Medium	High
Sensitivity	High	Major Adverse	Major Adverse	Moderate Adverse	Minor Adverse	Minor Beneficial	Moderate Beneficial	Major Beneficial	Major Beneficial
	Medium	Major Adverse	Moderate Adverse	Minor Adverse	Minor Adverse	Minor Beneficial	Minor Beneficial	Moderate Beneficial	Major Beneficial
	Low	Moderate Adverse	Minor Adverse	Minor Adverse	Negligible	Negligible	Minor Beneficial	Minor Beneficial	Moderate Beneficial
	Very low	Minor Adverse	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Minor Beneficial

Assessment methodology

12.9.2.11 The ES will set out the anticipated construction programme to establish the intensity, scale, location and timing of construction activity. The assessment of construction impacts will then relate to the programme described. **Table 12-14** indicates the broad approach to the methodology that will be undertaken for each recreation effect in the construction phase, while **Table 12-15** covers the operational phase.

Table 12-14: Recreation effects assessment methodology, construction phase

Effect	Assessment methodology
Potential temporary and permanent effects on the physical extent, condition and function of recreational routes and spaces where they are displaced by land required for the Proposed Development	• Identify and characterise recreational routes and spaces within the Scoping Boundary and RecSA that fall within temporary land take, including construction compounds, haul routes, laydown areas and works corridors. Record type, existing condition and duration of occupation. • For routes, determine the role each plays within the wider recreational network. • For spaces, determine the area and quality affected relative to the access standards established in the baseline. • Set the number and extent of affected routes and spaces against existing provision in the relevant community areas, and assess whether temporary loss compounds existing deficiencies identified in the baseline. • Where land is to be reinstated, assess the condition and function on reinstatement against the pre-construction baseline.
Potential temporary and permanent effects on the ability of users to reach and move between recreational routes and spaces, including changes in journey length due to severance, diversion or realignment	• Analyse access points, connecting paths and crossing facilities to identify where construction activity, hoardings, compounds, haul routes or construction traffic would obstruct, close, divert or realign recreational routes, or restrict access to recreational spaces. • For each identified break in connectivity, assess the nature and extent of severance, including the length of any detour required to complete an established journey and the quality and directness of the temporary alternative. • Calculate changes in journey length from surrounding residential areas to affected routes and spaces for the duration of the works. • Assess the availability and quality of temporary access and diversion arrangements, comparing each diversion to the original alignment against coherence, directness, comfort, attractiveness and safety, and taking account of signage, surfacing, lighting and step-free provision. • Assess the role of each affected link in connecting communities to key destinations, including green spaces, schools, health facilities and public transport.

Effect	Assessment methodology
	• Record the expected duration and timing of each closure, diversion or access restriction, since a short closure and a multi-year closure are not the same effect for users. • A route can be lawfully closed or diverted under a temporary order and still experience a significant recreational effect for the purposes of the ES.
Potential temporary and permanent effects on the amenity and experiential quality of recreational routes and spaces arising from construction noise, vibration, dust and visual change	• Draw on the findings of the noise and vibration, air quality and landscape and visual amenity assessments to characterise the environmental conditions experienced by users of routes and spaces adjacent to the works. • Assess the combined effect of these environmental changes on the quality of the recreational experience, by route and by space, rather than reporting each environmental topic in isolation. • Combination of effects across each community area could compound to significantly alter the recreational amenity within those communities. This will be assessed at each geography in the CSA.
Potential temporary and permanent effects on the catchment areas and user groups of recreational routes and spaces	• Characterise the catchment populations of affected routes and spaces using movement or activity datasets and demographic information for the relevant community areas. This may be supplemented with engagement insight and/or surveys and visits to the affected routes and spaces where data is incomplete. • Assess the availability of alternative provision within accessible distances for different user groups during the works, taking account of the physical accessibility of alternatives. • Consider whether effects compound existing inequalities in access identified in the baseline, including where community areas already fall below recommended access standards.

Table 12-15: Recreation effects assessment methodology, operation phase

Effect	Methodology
Potential permanent effects on the physical extent, condition and function of recreational routes and spaces where	• Identify and characterise recreational routes and spaces within the Scoping Boundary and RecSA that are subject to permanent land take or permanent change in function, including their type and existing condition. • For routes, determine the role each plays within the wider recreational network. • For spaces, determine the area and quality lost relative to the access standards established in the baseline.

Effect	Methodology
they are permanently displaced by the land required for the Proposed Development	• Set the extent of permanent loss against existing provision in the relevant community areas using the Natural England Green Infrastructure Framework access standards and Fields in Trust benchmarks, and assess whether the loss compounds existing deficiencies identified in the baseline. • Account for any replacement or new provision proposed, assessing quantity, quality and location, not quantity alone.
Potential permanent effects on the ability of users to reach and move between recreational routes and spaces, including lasting changes in journey length due to severance, diversion or realignment	• Analyse the permanent access points, connecting paths and crossing facilities in the operational layout to identify where access to and between recreational assets is altered. • Calculate changes in journey length from surrounding residential areas to affected assets, and assess the quality of the permanent access arrangements, including directness, legibility, surfacing and step-free provision.
Potential permanent effects on the amenity and experiential quality of recreational routes and spaces arising from operational aircraft noise, visual change and flight paths	• Draw on the noise and vibration assessment for aircraft noise, and the landscape and visual amenity assessment for visual change along route corridors and within spaces. • Assess the combined effect of these changes on the quality of the recreational experience, by route and by space. • Where relevant, distinguish between routes and spaces whose recreational value depends on tranquillity and those where it does not, since the same change in noise will not carry the same recreational consequence in each case. • Combination of effects across each community area could compound to significantly alter the recreational amenity within those communities. This will be assessed at each geography in the CSA.
Potential permanent effects on the catchment areas and user groups of recreational routes and spaces	• Characterise the catchment populations of affected routes and spaces using movement or activity datasets and demographic information for the relevant community areas, taking account of any changes in catchment arising from the operational layout. • Assess the availability of alternative provision within accessible distances for different user groups, taking account of the physical accessibility of alternatives. • Consider whether effects compound existing inequalities in access identified in the baseline, including where community areas already fall below recommended access standards.

12.9.3 Additional Baseline Information Required

12.9.3.1 An initial review of baseline information has been undertaken for the purposes of scoping, however a more detailed exercise will be required to determine the baseline, future baseline, sensitivity of receptors, and magnitude of impacts with respect to the recreation topic. This will cover: identifying users, catchments and emerging standards, research and policy.

12.9.3.2 An indicative list of sources of additional baseline information is shown in **Table 12-16**. This list is not exhaustive and emerging data/information will be taken into account throughout the full assessment. Information sources are reported here where further collection (potentially including different spatial granularity, purpose of collection or detail and focus) is required.

Table 12-16: Additional baseline data sources to be used

Source	Data	Relevance to the assessment
Natural England Green Infrastructure Framework	Green and Blue Infrastructure Asset Maps Access to Greenspace Standards Assessment for England Linear Access Network Blue Infrastructure (Waterbodies and Courses) Access to Nature Close to Home Sports, Play and Active Recreation Environmental Equity Index	Recreational routes and spaces Users of recreational routes and spaces

12.9.3.3 Additional baseline information required to undertake the recreation assessment may include:

- Identification of recreational groups and users that may experience effects;
- Data related to the function, catchments, qualitative requirements and pre-existing constraints relating to recreational routes and spaces;
- Emerging standards, research and policy related to (access to) recreational routes and spaces. This includes supplementary planning policy and/or spatial development strategy direction as it emerges.

12.9.3.4 Population projections will either utilise accepted publicly available sources or demographic forecasts will be procured from a reputable forecasting house.

12.9.3.5 Walkover surveys of recreational spaces and routes within the agreed assessment area. The walkover surveys will seek to:

- Verify the assets identified via the desk-based studies;
- Identify additional assets not apparent from desk research;
- Assess the condition and context of the resources; and
- Allow informed estimates to be made about the likely level and nature of use of resources where possible.

12.9.3.6 User surveys will be used to enhance evidence and conducted where additional information is required on the nature, frequency, intensity, and purpose of usage of recreational routes and spaces.

Future baseline and scenarios

12.9.3.7 The point in time at which the anticipated recreation effects relating to the Proposed Development would occur is different to the point of assessment and/or the year for which data is available to characterise current conditions. To conduct a more realistic assessment, a future baseline is established so the receptors at the point at which an effect would occur are better understood and their sensitivity at that point determined. The future baseline has two components: the receptors and the characteristics that determine their sensitivity.

12.9.3.8 The sources above will also be used to characterise the future baseline insofar as they contain robust information about the relevant receptors at the future assessment years. Only receptors that exist at the time at which an effect occurs will be considered to comprise part of the future baseline. This includes addition and omission of receptors compared against those currently identified. An assessment of a recreation effect on a receptor is only undertaken in the phase in which the effect occurs on it/them, which may be in multiple phases.

12.9.3.9 Additional sources of information about the future baseline will be derived from:

- Population forecasts;
- Planning and development pipeline; and
- Infrastructure delivery plans.

12.9.4 Cumulative Effects

12.9.4.1 The recreation assessment will consider cumulative effects. Cumulative effects refer to those effects whereby the aggregate of multiple scheme elements beyond the Proposed Development (Stage 1) or in relation to other schemes (Stage 2) could lead to different effects to those reported in the main assessment. In-combination effects relate to those effects that are caused by the interrelationship of different environmental effects within the Proposed Development and will be reported in **Chapter 24: Cumulative and In-combination Effects**.

12.9.4.2 Taking a proportionate approach to cumulative assessment is also related to the treatment of a future baseline because the latter includes in part the former i.e. projections of the future account for the fact that development will occur. This occurs through for example residential development that implies larger populations via development in the vicinity or related to the Proposed Development.

12.9.4.3 Cumulative effects will be considered based on consideration of whether the following principles pertain to the longlist of cumulative schemes that will necessarily be sifted to ensure proportionality:

- there is an overlapping boundary of the scheme (spatial agreement) (Stage 1);
- the scheme is located in the same recreation assessment area as the effect scale (Stage 1);
- the scheme is sufficiently progressed to represent a likely interaction referencing Tiers 1 – 3 of scheme certainty set out by the Planning Inspectorate (Stage 1);[69]
- there is temporal overlap (Stage 2);
- the scale/nature is notable enough to represent a change that would not be captured by future baseline i.e. it is hyperlocal/unique such as a single recreation receptor (and would not be captured by forecasts) or large enough to disturb the forecast (Stage 2)
- there is sufficient information about the scheme to lead to a meaningful assessment (Stage 3); and
- the scheme is of the same type/sufficient similarity to the receptor group (proportionality).

12.9.5 In-Combination Effects

12.9.5.1 In-combination effects have the potential to arise where environmental effects of the Proposed Development interact with each other such that the effect is different to an environmental effect happening in isolation. Potential in-combination effects will be assessed based on consideration of principles guiding cumulative effect assessment with the intention of providing proportionate and meaningful assessment only for potentially significant effects. Therefore, the following criteria to describe significance in this regard will be taken into account to determine whether an in-combination effect assessment should be considered: duration of effect, extent of effect, type of effect, frequency, value and resistance of the receptor and likely success of mitigation.[70]

12.9.5.2 In-combination effects will be considered only where relevant over and above those pathways that already consider how environmental topics interact such as those relating to amenity.

12.9.5.3 An indicative sifting exercise for the relevant topic effects to be taken into account for the assessment of in-combination effects is shown in **Table 12-17**. This will remain under review as more detailed assessments are undertaken at preliminary assessment stage.

[69] Planning Inspectorate, 2026. Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment.
[70] Planning Inspectorate, 2026. Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment.

Table 12-17: Relevant topic effects to be considered for assessment of in-combination effects

Activity	Community	Economics and Employment	Health	Traffic and Transport	Major Accident and Disasters	Noise and Vibration	Air Quality and Odour	Landscape and Visual Amenity
Displacement/loss or other change to recreational routes and spaces as a result of land use change and construction activity	✓	✓	✓	✓	?	✓	?	?
Construction activity and associated environmental changes	✓	✓	?	✓	?	✓	✓	✓
Permanent displacement/loss or other change to recreational routes and spaces as a result of permanent land take	✓	✓	✓	✓	?	✓	?	?
Operational activities and associated environmental changes	✓	✓	?	✓	?	✓	✓	✓

12.9.6 Limitations and Assumptions

12.9.6.1 The availability of up-to-date accessible data presents a potential limitation to the assessment of the recreation baseline and receptor sensitivity within the recreation assessment. The latest data available at the time of assessment will be utilised. Official national statistics will be prioritised where possible. Baseline data will continue to be updated prior to submission of the ES.

12.9.6.2 The future baseline with respect to population changes relies on publicly available forecasts. There are well-documented limitations relating to the use of economic projections, predominantly in relation to accounting for changes in the economy. These types of projections rely on a set of national macroeconomic assumptions that are taken as a starting point, with forecasts apportioned to regional and local authority levels following analysis of the economic composition of an area. This methodology means that forecasts do poorly in reacting to significant shocks to the economy. Furthermore, data limitations at the local authority level make it difficult

for these top down forecasts to accurately account for local factors that have an impact on population and employment growth beyond the local authority level. These forecasts are considered best practice for analysing future trends in baseline conditions, however, as it is widely acknowledged that they are helpful in indicating the approximate scale of future population growth.

12.9.6.3 Response rates and engagement levels of user surveying may present a limitation if low, including due to engagement fatigue. This may limit the quantum of primary data on which to conduct analysis, meaning reliance on secondary sources and other preexisting surveys is increased.

12.10 Proposed Approach to Mitigation

12.10.1.1 Mitigation will be considered in three broad stages: primary, secondary and tertiary mitigation.

- Primary mitigation means measures built into the design of the Proposed Development from the outset. This may include changes to the location, layout, phasing or construction approach to avoid or reduce negative effects before they arise.
- Secondary mitigation means additional measures introduced to reduce effects that cannot be fully designed out. These measures are usually developed through the assessment process and may include management plans, targeted support for affected businesses, or measures to reduce construction disruption.
- Tertiary mitigation means standard controls that are expected to be implemented as a matter of good practice or legal requirement. This may include measures secured through the Draft Code of Construction Practice, planning conditions, environmental permits or other established regulatory controls.

12.10.1.2 The first approach is to avoid or reduce negative impacts by changing the design of the Proposed Development itself. Where an impact cannot be designed out, specific measures are introduced to manage and offset it. The assessment of impacts will be made on the basis that these embedded mitigation measures are in place.

12.10.1.3 The initial assessment will take account of primary mitigation built into the Proposed Development and tertiary mitigation provided through standard controls. Where a likely significant effect is identified, secondary mitigation will be considered and the effect remaining after those measures, the residual effect, will be assessed. Mitigation measures will be refined through consultation with local stakeholders, businesses and authorities so that they respond to local circumstances.

12.10.1.4 Some practical measures that may be considered include:

- A mitigation hierarchy in relation to the strategy for recreational routes that are impacted by the Proposed Development. This hierarchy will be developed in line with the EIA Regulations, which require a description of measures to avoid,

prevent, reduce or, if possible, offset significant adverse effects. The preferred approach will be to retain recreational routes and facilities in use on their existing alignment where practicable. Where this is not possible, effects will be minimised through a diversion hierarchy, prioritising short, safe and accessible temporary diversions close to existing desire lines before longer alternative routes are considered. Measures will also seek to maintain recreational connectivity during construction, including links between communities, open spaces, PRoW, cycle routes and other recreational destinations. Where permanent impacts cannot be avoided, suitable replacement routes or equivalent recreational provision will be identified, having regard to accessibility, amenity, safety and recreational function. Opportunities for recreational enhancement and green infrastructure improvements, such as improved surfacing, signage, landscaping, biodiversity links and better connections to existing recreational networks, will also be considered. Monitoring arrangements will be identified where appropriate.

- A **Draft Code of Construction Practice**: will establish the standards and working practices to be adopted throughout the construction phase to minimise adverse effects on local community amenity, addressing matters including permitted working hours, noise, dust, lighting, complaints procedures and community liaison arrangements.

12.10.1.5 In addition to the environmental topics that form part of the ES, a range of supplementary assessments and mitigation strategies will be prepared which will inform the assessment of effects for the recreation environmental topic. Key documents associated with the recreation assessment that form part of the Development Consent Order (DCO) submission include:

- **Construction Environmental Management Plan**: This plan will set out the measures, controls and monitoring procedures that will be implemented to avoid, reduce and manage environmental effects, including on recreational routes and spaces, during the construction phase of the Proposed Development. It will cover matters such as construction traffic, noise and vibration, air quality and dust, surface water management, waste, site lighting, working hours, and emergency response procedures.
- **Travel Plans**: These plans will set out the measures through which the Proposed Development will promote safe, efficient and sustainable travel during construction and/or operation, as relevant.
- **Surface Access Strategy**: This strategy will set out how people and vehicles will access the project during construction and operation, including measures to maintain or manage pedestrian, cyclist, equestrian and recreational route connectivity, safety and accessibility.
- **Green Infrastructure Strategy:** This strategy will address the reprovision of affected open space and recreational assets, maintain or restore connections between spaces, and deliver accessible replacement provision. The timing and phasing of replacement provision will seek to minimise disruption to community access and use.

- **Community Engagement Plan**: This plan will provide accessible project information, community liaison arrangements and a clear complaints and response procedure.
- **Property and Compensation Policy**: This policy will be developed for people and organisations directly affected by land acquisition or displacement, alongside proportionate relocation support. This will include consideration of an appropriate wider property offer, timely reprovision of displaced community facilities and recreational assets, and additional support for residents with particular relocation or support needs.

12.11 Summary

Table 12-18: Elements scoped in/out of recreation assessment

Discipline	Scoped In Elements	Scoped Out Elements
Recreation	Potential temporary and permanent effects on the physical extent, condition and function of recreational routes and spaces where they are displaced by land required for the Proposed Development Potential temporary and permanent effects on the ability of users to reach and move between recreational routes and spaces, including changes in journey length due to severance, diversion or realignment Potential temporary and permanent effects on the amenity and experiential quality of recreational routes and spaces arising from construction noise, vibration, dust and visual change Potential temporary and permanent effects on the catchment areas and user groups of recreational routes and spaces	Effects on recreational routes and spaces located wholly outside the RecSA where there is no credible impact pathway between the Proposed Development and the route or space.

Environmental Impact Assessment Scoping Report

Chapter 13

Historic Environment

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13 Historic Environment

13.1 Introduction

13.1.1.1 This Chapter of the Environmental Impacts Assessment (EIA) Scoping Report has been prepared by Stantec and sets out the likely impacts and significant effects on the Historic Environment produced by the Proposed Development which will be reported in the Environmental Statement (ES).

13.1.1.2 The 'Historic Environment' covers all aspects of the environment resulting from the interaction between people and places through time, and comprises three sub-topics which are defined as:

- **Archaeology:** the material remains of human activity from the earliest periods of human evolution to the present. These could be buried traces of human activities, archaeological deposits, sites which are visible above ground, or moveable artefacts. Archaeological remains can encompass the remains of buildings, structures, earthworks and landscapes, human, animal, or plant remains, or other organic material produced by or affected by human activities.
- **Built heritage:** architectural, designed or other structures with a significant historical value. These could include structures that have no aesthetic appeal or structures not usually thought of as 'buildings', such as milestones or bridges.
- **Historic landscape:** the current landscape, whose character is the consequence of the action and interaction of natural and/ or human factors.

13.1.1.3 Baseline assessments to inform the ES will include a Historic Environment Appraisal, Historic Environment Setting Assessment, Geoarchaeological Desk-based Assessment, Aerial Photography, LiDAR and Historic Mapping Analysis, an Archaeological Investigation and Research Strategy, and results of any evaluative surveys.

13.1.1.4 This Chapter should be read in conjunction with the following Chapters;

- **Chapter 15: Landscape and Visual Amenity**; and
- **Chapter 20: Noise and Vibration**.

13.2 Policy, Legislation and guidance

13.2.1.1 This section identifies the relevant topic specific policies, legislation and guidance that have informed the scope and, where relevant, the study area of the assessment presented in **Section 13.4**. Further information on the policies, legislation and guidance relevant to the EIA and their status is set out in **Section 1.9** which should be read in conjunction with this chapter.

Table 13-1: Policy relevant to the Historic Environment assessment

Relevant Policy / Legislation	Relevance to assessment
Policy – National	
Airports National Policy Statement (ANPS)[1] (2018)	Paragraphs 5.187 – 5.212 set out the Government's position on potential impacts to the Historic Environment as a result of airport schemes. The ANPS confirms that the Proposed Development must comply with legislation relating to listed buildings, conservation areas and scheduled monuments as set out in the EIA Regulations and the former National Planning Policy Framework (NPPF) (2018)[2]. The policy requires applicants to identify and assess the significance of heritage assets and the contribution made by their settings, having regard to statutory duties relating to listed buildings, conservation areas and scheduled monuments. The Secretary of State is required to give great weight to heritage conservation, with any harm requiring clear and convincing justification. Applicants are expected to avoid, minimise and mitigate impacts where possible and to seek opportunities to conserve, enhance and better reveal the significance of affected heritage assets.
National Networks National Policy Statement (NNNPS)[3] (2024)	Section 5.120 to 5.142 in the NNNPS relates to the Historic Environment. It sets out how nationally significant road and rail projects should identify, assess and respond to impacts on heritage assets. Its principles are broadly reflected in the NPPF (below) including identification of assets, assessment of significance and the requirement for field evaluation where necessary.

[1] Department for Transport. Airports National Policy Statement. 2018. Available at: Airports National Policy Statement - GOV.UK (accessed on 08/09/2026)
[2] Last updated August 2026
[3] Department for Transport. National Networks National Policy Statement. 2024. Available at: https://www.gov.uk/government/publications/national-networks-national-policy-statement (accessed on 08/09/2026)

Relevant Policy / Legislation	Relevance to assessment
Draft Heathrow Expansion National Policy Statement (HENPS)[4] (June 2026)	Paragraphs 5.280–5.307 establish the policy framework for assessing and determining impacts on the Historic Environment arising from Heathrow expansion. Compared with the 2018 ANPS, the draft HENPS places greater emphasis on evidencing archaeological significance through desk-based assessment (and, where necessary, field evaluation) and provides more detailed requirements for archaeological recording, publication and archiving. It also gives greater prominence to non-designated archaeological assets of equivalent significance to Scheduled Monuments. A notable feature is the explicit requirement to undertake detailed studies of impacts arising from aviation noise and lighting. The draft HENPS also encourages applicants to address heritage at risk, improve interpretation and accessibility of assets, and seek opportunities to better reveal the significance of assets.

[4] Department for Transport. Draft Heathow Expansion National Policy Statement. 2026. Available at: https://www.gov.uk/government/publications/draft-heathrow-expansion-national-policy-statement (accessed 08/09/2026)

Relevant Policy / Legislation	Relevance to assessment
National Planning Policy Framework[5] (2026) – Section 20: Conservation and enhancing the Historic Environment	Section 20 of the NPPF sets out ten heritage policies (HE1 – HE10) for the conservation and enhancement of the Historic Environment. The NPPF requires applicants to understand and assess the significance of heritage assets and the effects of development upon them. Effects to heritage assets can involve positive effect, no effect, harm, substantial harm, or total loss. Applications should provide sufficient information to allow the decision-maker to understand the effects of the development on a heritage asset's significance, detail how harm has been avoided, minimised, or mitigated, and provide justification for harm that cannot be avoided. When considering the potential effect of a development proposal on the significance of a designated heritage asset, substantial weight should be given to the asset's conservation. Where a development proposal would harm the significance of a non-designated heritage asset, this should be weighed against the benefits of the proposal, having regard to the scale of any harm or loss and the significance of the non-designated heritage asset.
Scheduled Monuments Policy Statement[6] (2013)	This policy outlines the government's approach to identification, protection, conservation and investigation of nationally significant sites in England. The policy is guided by the Ancient Monuments and Archaeological Areas Act (1979) (below) and promotes: • Preservation of nationally significant monuments in situ where possible; • Positive and sustainable management of scheduled sites; • Balancing conservation needs with appropriate land use and public benefit.

[5] Ministry of Housing, Communities and Local Government. National Planning Policy Framework. 2026. Available at: https://www.gov.uk/guidance/national-planning-policy-framework (accessed on 08/09/2026)
[6] Department for Culture, Media and Sport. Scheduled monuments policy statement. 2013. Available at: https://www.gov.uk/government/publications/scheduled-monuments-policy-statement (accessed on: 08/09/2026)

Relevant Policy / Legislation	Relevance to assessment
Policy – Regional	
The London Plan (Adopted 2021)[7]	Chapter 7 (Heritage and Culture) of The London Plan sets out the relevant policies for the protection of the Historic Environment in the Greater London region. Relevant policies include; • Policy HC1: Heritage conservation and growth; • Policy HC2: World Heritage Sites; • Policy HC3: Strategic and Local Views. These policies promote the conservation, enhancement and active use of London's Historic Environment. Policy HC1 notes that applicants of development proposals should identify and assess impacts to heritage assets, and harm should be avoided where possible or minimized through design. Policy HC2 notes that proposals within the setting of a World Heritage Site (WHS) should not compromise the ability to appreciate their Outstanding Universal Value. Policy HC3 notes that proposals must assess their impact on Strategic Views within London.
Draft London Plan (2026)[8]	Policy MBUL7 (London's Heritage) of the Draft London Plan sets out the emerging policy for the future protection of the Historic Environment in the Greater London region. This policy closely reflects the currently adopted policies (above).
Policy – Local	

[7] Greater London Authority. The London Plan. 2021. Available at: https://www.london.gov.uk/programmes-strategies/planning/london-plan/the-london-plan-2021-table-contents#chapter-7-heritage-and-culture-177343-title (accessed on: 08/09/2026)
[8] Greater London Authority. Draft London Plan. 2026. Available at: https://www.london.gov.uk/programmes-strategies/planning/london-plan/next-london-plan/draft-london-plan-consultation/draft-london-plan-consultation-resources/draft-london-plan (accessed on: 21/09/2026)

Relevant Policy / Legislation	Relevance to assessment
Hillingdon Local Plan Part 1: Strategic Policies[9] (Adopted 2012) and Hillingdon Local Plan Part 2: Development Management Policies[10] (Adopted 2020)	The Hillingdon Local Plan sets out the relevant planning policies for protection of the historic and built environment within the London Borough of Hillingdon. Relevant policies from Part 1 include: • Policy HE1: Heritage • Policy BE1: Built Environment Relevant policies from Part 2 include: • Policy DMHB 1: Heritage assets; • Policy DMHB 2: Listed Buildings; • Policy DMHB 3: Locally Listed Buildings; • Policy DMHB 4: Conservation Areas; • Policy DMHB 5: Areas of Special Local Character; • Policy DMHB 7: Archaeological Priority Areas and Archaeological Priority Zones; and • Policy DMHB 8: Registered Historic Parks, Gardens and Landscapes. A common theme across these policies is that development proposals must identify and assess heritage significance, including the contribution made by setting, and demonstrate how significance will be preserved or enhanced. Where impacts cannot be avoided, applicants are expected to justify any harm and implement appropriate mitigation measures, including archaeological investigation where necessary.

[9] London Borough of Hillingdon. Local Plan Part 1: Strategic Policies. 2012. Available at: https://pre.hillingdon.gov.uk/planning-policy/local-plan-review (accessed on 21/09/2026)
[10] London Borough of Hillingdon. Local Plan Part 2: Development Management Policies. 2020. Available at: https://pre.hillingdon.gov.uk/planning-policy/local-plan-review (accessed on 08/09/2026)

Relevant Policy / Legislation	Relevance to assessment
Hounslow Local Plan[11] (Adopted 2015)	The Hounslow Local Plan sets out the relevant planning policies for protection of the historic and built environment within the London Borough of Hounslow. This comprises Policy CC4 (Heritage) which sets out the requirement for development proposals to assess the significance of heritage assets susceptible to impacts, conserve important architectural, historic, archaeological, and landscape interests, and ensure that any harm is clearly justified.
Ealing Development Plan: Development Management DPD[12] (Adopted 2013)	This document sets out the relevant policies for protection of the Historic Environment within the London Borough of Ealing. This comprises Policy 7C Ealing Local Policy (Heritage) which sets out the requirement for development proposals to assess the significance of heritage assets susceptible to impacts, avoid harm where possible, and clearly justify impacts where unavoidable.

[11] London Borough of Hounslow. Local Plan 2015-2030: Volume One. 2015. Available at: https://www.hounslow.gov.uk/local-plan/local-plan-1 (accessed on 08/09/2026)
[12] Ealing Council. Development Management Development Plan Document. 2013. Available at: https://www.ealing.gov.uk/downloads/download/7533/development_management_dpd (accessed on 08/09/2026)

Relevant Policy / Legislation	Relevance to assessment
Richmond Local Plan 2024-2039[13] (Adopted 2025)	The Richmond Local Plan sets out the relevant planning policies for protection of the Historic Environment within the London Borough of Richmond-upon-Thames. Relevant policies include: • Policy 29: Designated Heritage Assets; • Policy 30: Non-designated Heritage Assets; • Policy 32: Royal Botanic Gardens, Kew World Heritage Site; and • Policy 33: Archaeology. A common theme across these policies is that harm to heritage significance must be avoided where possible and where unavoidable, clearly justified and outweighed by public benefits in accordance with national policy. The policies require that archaeological potential is appropriately assessed, and where necessary mitigated through proportionate fieldwork.
Spelthorne Local Plan 2024 – 2039/40[14] (Adopted 2026)	The Spelthorne Local Plan sets out the relevant planning policies for protection of the Historic Environment within the Spelthorne Borough, Surrey. This comprises Policy PS3 (Heritage, Conservation and Landscape) which sets out the requirement for development proposals to assess the significance of heritage assets susceptible to impacts, avoid harm where possible, and clearly justify impacts where unavoidable. The policy also requires development to respect local landscape character and avoid significant harm to the Borough's historic landscape character unless outweighed by substantial public benefits.

[13] London Borough of Richmond-upon-Thames. Richmond upon Thames Local Plan 'The best for our borough' (2024 to 2039). 2025. Available at: https://www.richmond.gov.uk/services/planning/planning_policy/local_plan/adopted_local_plan (accessed on 08/09/2026)
[14] Spelthorne Borough Council. Spelthorne Local Plan 2024-2039/40. 2026. Available at: https://www.spelthorne.gov.uk/page/1383/local-plan-march-2026 (accessed on 08/09/2026)

Relevant Policy / Legislation	Relevance to assessment
Runnymede 2030 Local Plan[15] (Adopted 2020)	The Runnymede 2030 Local Plan sets out the relevant planning policies for protection of the Historic Environment within the Runnymede Borough, Surrey. Relevant policies include: • Policy EE3: Strategic Heritage Policy • Policy EE4: Listed Buildings • Policy EE5: Conservation Areas • Policy EE7: Scheduled Monuments, County Sites of Archaeological Importance (CSAIs) and Areas of High Archaeological Potential (AHAPs) • Policy EE8: Locally listed and other Non-Designated Heritage Assets A common theme across these policies is that development proposals must identify and assess heritage significance, including the contribution made by setting, and demonstrate how significance will be preserved or enhanced. Where impacts cannot be avoided, applicants are expected to justify any harm and implement appropriate mitigation measures, including archaeological investigation where necessary.

[15] Runnymede Borough Council. Runnymede 2030 Local Plan. 2020. Available at: https://www.runnymede.gov.uk/planning-policy/runnymede-2030-local-plan (accessed on 08/09/2026)

Relevant Policy / Legislation	Relevance to assessment
Royal Borough of Windsor & Maidenhead Local Plan 2013 – 2033[16] (Adopted 2022)	The Royal Borough of Windsor & Maidenhead Local Plan sets out the relevant planning policies for protection of the Historic Environment within the borough. Relevant policies include: • Policy HE 1: Historic Environment • Policy HE 2: Windsor Castle and Great Park A common theme across these policies is that proposals must demonstrate how heritage assets, both designated and non-designated, will be preserved or enhanced, with harm requiring clear justification in accordance with national policy. The loss of heritage assets is strongly resisted, and applications affecting archaeological remains must be supported by appropriate archaeological assessment and, where necessary, investigation and recording. Policy HE 2 provides specific protection for Windsor Castle and the Great Park. Development affecting these assets must demonstrate how it conserves and enhances their architectural, historic and landscape significance, safeguards their setting, and protects important views of the Castle.
South Bucks Core Strategy[17] (Adopted 2011)	This document sets of relevant planning policies for protection of the Historic Environment within South Buckinghamshire. This comprises Core Policy 8 (Built and Historic Environment) which states that development proposals should make a positive contribution to the historic character of surrounding area.

[16] Royal Borough of Windsor & Maidenhead. Borough Local Plan 2013 – 2033. 2022. Available at: https://www.rbwm.gov.uk/planning-and-building-control/planning-policy/development-plan/adopted-local-plan (accessed on 08/09/2026)
[17] South Bucks District Council. South Bucks Local Development Framework, Core Strategy DPD. Available at: https://media.buckinghamshire.gov.uk/documents/South_Bucks_Core_Strategy_-_Adopted_February_2011_bb48FA7.pdf (accessed on 08/09/2026)

Relevant Policy / Legislation	Relevance to assessment
South Bucks District Local Plan[18] (Adopted 1999, consolidated February 2011)	Saved policies from the 1999 South Bucks District Local Plan include Policy C1 (Development within a Conservation Area) which notes that development within conservation areas (CA) will only be permitted where it preserves or enhances the important features which contribute towards the character of the area.

Table 13-2: Legislation relevant to the Historic Environment assessment

Relevant Legislation	Relevance to assessment
Legislation – National	
Ancient Monuments and Archaeological Areas Act[19] (1979)	This is the principal legislation for the statutory protection of nationally significant archaeological sites (scheduled monuments). It provides the basis for the scheduling and protection of these sites, and under Section 2 of the Act, outlines the requirement for Scheduled Monument Consent for works that would demolish, damage, alter or otherwise affect a scheduled site.

[18] South Bucks District Council. South Bucks District Local Plan. 1999. Available at: https://media.buckinghamshire.gov.uk/documents/South_Bucks_local_plan_j4D6YG4.pdf (accessed on 21/09/2026)

[19] Historic England and Department for Culture, Media and Sport. Ancient Monuments and Archaeological Areas Act. 1979. Available at: https://www.legislation.gov.uk/ukpga/1979/46/contents (accessed on 08/09/2026)

Planning (Listed Buildings and Conservation Areas) Act[20] (1990)	This is the principal legislation for the protection of listed buildings and conservation areas. The Act establishes the statutory framework for the designation of listed buildings and conservation areas, requires Listed Building Consent for works affecting the special architectural or historic interest of a listed building, and places duties on decision-makers to have special regard to the preservation of listed buildings, their settings and the character or appearance of conservation areas. These provisions form a key component of the legislative framework for managing change within the Historic Environment.
The Hedgerows Regulations[21] (1997)	These regulations provide statutory protection for historically 'important' hedgerows by controlling their removal through a notification and consent process administered by local planning authorities. The regulations identify historically important hedgerows on the basis of archaeological, historical, and landscape criteria including associations with historic boundaries, archaeological features, and historic landscape character.
Infrastructure Planning (Decisions) Regulations[22] (2010)	Regulation 3 outlines that decision-makers must consider the conservation of designated heritage assets when determining Development Consent Order (DCO) applications. Its principles are similar to those outlined in the Ancient Monuments and Archaeological Areas Act (1979) and Planning (Listed Buildings and Conservation Areas) Act (1990) outlined above. The regulations promote the preservation of listed buildings / scheduled monuments and their settings, and the preservation or enhancement of conservation areas in relation to Nationally Significant Infrastructure Projects (NSIPs).

[20] UK Government. Planning (Listed Buildings and Conservation Areas) Act. 1990. Available at: https://www.legislation.gov.uk/ukpga/1990/9/contents (accessed on 08/09/2026)
[21] UK Government. The Hedgerows Regulations. 1997. Available at: https://www.legislation.gov.uk/uksi/1997/1160/contents (accessed on 08/09/2026)
[22] UK Government. The Infrastructure Planning (Decisions) Regulations. 2010. Available at: https://www.legislation.gov.uk/uksi/2010/305/contents/made (accessed on 08/09/2026)

Table 13-3: Guidance relevant to the Historic Environment assessment

Relevant Guidance	Relevance to assessment
Guidance –– International	
UNESCO, Guidance and Toolkit for Impact Assessments in a World Heritage Context[23] (2022)	Guidance for assessing impacts from developments that have the potential to impact the significance of a WHS.
Guidance – National	
Standards for Highways, Design Manual for Roads and Bridges (DMRB) Cultural Heritage Assessment (LA 106)[24] (2020)	Sets out the methodology for identifying, assessing and reporting the effects of highway schemes on heritage assets and their settings.
Chartered Institute for Archaeologists (CIfA) 'Standards and Guidance for Historic Environment Desk-based Assessment'[25] (2017)	Sets out good practice for the identification, investigation and assessment of the Historic Environment through the collation and analysis of existing information.
Countryside hedgerow protection: removing hedgerows[26] (2014)	Provides guidance on the identification, protection and management of hedgerows, setting out the legal framework for their retention and removal.
Historic England's 'Managing Significance in Decision-Taking in the Historic Environment[27] (2015)	Provides guidance for assessing the significance of heritage assets and considering the effects of development proposals on that significance as part of the planning process.

[23] United Nations Educational, Scientific and Cultural Organization. Guidance and Toolkit for Impact Assessments in a World Heritage Context. 2022. Available at: https://whc.unesco.org/en/guidance-toolkit-impact-assessments/ (accessed on 21/09/2026)
[24] Standards for Highways. LA 106 – Cultural heritage assessment. 2020. Available at: https://www.standardsforhighways.co.uk/search/8c51c51b-579b-405b-b583-9b584e996c80 (acessed on 08/09/2026)
[25] Chartered Institute for Archaeologists. Standard and guidance for historic environment desk-based assessment. 2017. Available at: CIfA-SandG-DBA-2020.pdf (accessed on 08/09/2026)
[26] Natural England and Department for Environment, Food, & Rural Affairs. Countryside hedgerow protection: removing hedgerows. 2014. Available at: https://www.gov.uk/guidance/countryside-hedgerows-regulation-and-management#apply-to-remove-a-countryside-hedgerow (accessed on 08/09/2026)
[27] Historic England. Managing Significance in Decision-Taking in the Historic Environment: Historic Environment Good Practice Advice in Planning 2. 2015. Available at: https://historicengland.org.uk/images-books/publications/gpa2-managing-significance-in-decision-taking/ (accessed on 08/09/2026)

Relevant Guidance	Relevance to assessment
Historic England's 'The Setting of Heritage Assets'[28] (2017)	Provides guidance on assessing how the setting of a heritage asset contributes to its significance and how changes should be managed.
Historic England's 'Statements of Heritage Significance: Analysing Significance in Heritage Assets[29] (2019)	Provides guidance on the assessment of the significance of heritage assets to support planning and consent applications.
Historic England's 'Aviation Noise Metric – Research on the Potential Noise Impacts on the Historic Environment by Proposals for Airport Expansion in England[30] (2017)	Provides a methodology for assessing how changes in aircraft noise can affect the setting of heritage assets and their significance.
Historic England's 'Using Airborne LiDAR in Archaeological Survey'[31] (2018)	Provides guidance on the use of airborne laser scanning (LiDAR) for the identification, investigation and mapping of archaeological features and historic landscapes.
Historic England's 'Geoarchaeology: Using earth sciences to understand the archaeological record[32] (2015)	Provides guidance on the application of earth science techniques to investigate archaeological deposits, landscapes and site formation processes. It promotes the integration of geoarchaeological methods throughout the archaeological process, from desk-based assessment and evaluation to excavation and analysis, to improve understanding of depositional environments, archaeological preservation, stratigraphy and past landscape change.

[28] Historic England. The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning 3. 2017. Available at: https://historicengland.org.uk/images-books/publications/gpa3-setting-of-heritage-assets/ (accessed on 08/09/2026)
[29] Historic England. Statements of Heritage Significance: Analysing Significance in Heritage Assets, Historic England Advice Note 12. 2019. Available at: https://historicengland.org.uk/images-books/publications/statements-heritage-significance-advice-note-12/heag279-statements-heritage-significance/ (accessed on 08/09/2026)
[30] Historic England. Aviation Noise Metric – Research on the Potential Noise Impacts on the Historic Environment by Proposals for Airport Expansion in England. 2017. Available at: https://historicengland.org.uk/research/results/reports/87-2014 (accessed on 08/09/2026)
[31] Historic England. Using Airborne Lidar in Archaeological Survey; The Light Fantastic. 2018. Available at: https://historicengland.org.uk/images-books/publications/using-airborne-lidar-in-archaeological-survey/ (accessed 08/09/2026)
[32] Historic England. Geoarchaeology: Using earth sciences to understand the archaeological record. 2015. Available at: https://historicengland.org.uk/images-books/publications/geoarchaeology-earth-sciences-to-understand-archaeological-record/ (accessed 08/09/2026)

Relevant Guidance	Relevance to assessment
Institute of Environmental Management and Assessment's 'Principles of Cultural Heritage Impact Assessment[33] (2021)	Provides a framework for the assessment of the effects of development on heritage assets and their significance.
Guidance – Regional	
Historic England's 'Greater London Archaeological Priority Area Guidelines'[34] (2016)	Provides a framework for identifying, defining and managing Archaeological Priority Areas (APAs) across Greater London

13.3 Stakeholder Engagement

13.3.1.1 Initial consultation with key heritage stakeholders is in the process of being undertaken. These initial discussions provided stakeholders with an overview of the Proposed Development and the proposed approach to assessment of the Historic Environment, with the aim of agreeing the scope of assessment and receive initial thoughts on the likely effects.

13.3.1.2 Further consultation will be carried out with the relevant heritage stakeholders at regular and appropriate intervals including as design details emerge, following completion of the Historic Environment baseline assessments, and during preparation of the ES chapter to understand the requirement and scope of any evaluative or mitigative measures which could be incorporated to provide beneficial effects to heritage assets or to avoid, reduce or offset any adverse effects identified. Consultation is expected to involve the establishment of 'Heritage Workshops' with representatives from all relevant stakeholder organisations to discuss the evolving design, assessment, and evaluation and mitigation strategies.

13.3.1.3 A summary of stakeholder consultation undertaken to date and proposed future engagement are outlined in **Table 13-4.**

[33] IEMA. Principles of Cultural Heritage Impact Assessment in the UK. 2021. Available at: https://www.archaeologists.net/sites/default/files/2024-11/CIfA-IEMA-Principles-Cultural-Heritage-Impact-UK_2021.pdf (accessed on 08/09/2026)
[34] Historic England. Greater London Archaeological Priority Area Guidelines. 2016. Available at: https://historicengland.org.uk/images-books/publications/greater-london-archaeological-priority-area-guidelines/ (accessed on 08/09/2026)

Table 13-4: Engagement with stakeholders

Consultee/s	Engagement undertaken to date	Proposed future engagement
Historic England	Initial consultation carried out by Heathrow West via email [09/07/26], introducing Stantec as the EIA Co-ordinators of the Proposed Development. An acknowledgement of this was received by Historic England via email [12/07/26] Follow up consultation carried out via email [11/08/2026] by the Stantec Archaeology and Heritage team, providing an overview of the Proposed Development and outlining the proposed scope of assessment. A response was received on 14/08/2026 which acknowledged our engagement and requested a meeting to discuss project scope and timescales. This will be progressed in due course.	Further consultation will be carried out in advance of baseline surveys to agree the scope of assessment, notably regarding designated heritage assets. Engagement will be on-going throughout production of baseline surveys, following completion, and during production of the ES to discuss requirement and scope of evaluative and mitigative measures. Engagement will take the form of 'Heritage Workshops' and/or Teams meetings.

Consultee/s	Engagement undertaken to date	Proposed future engagement
Greater London Archaeological Advisory Service (GLAAS)	Initial consultation carried out by Heathrow West via email [09/07/26], introducing Stantec as the EIA Co-ordinators of the Proposed Development. Follow up consultation carried out via email [24/08/2026] by the Stantec Archaeology and Heritage team, providing an overview of the Proposed Development and outlining the proposed scope of assessment. A response was received on 07/09/2026 which acknowledged our engagement and requested a meeting to discuss project scope and timescales. This will be progressed in due course.	Consultation will be carried out in advance of baseline surveys to discuss the scope of archaeological assessment. Engagement will be ongoing throughout production of baseline surveys, following completion, and during production of the ES to discuss requirement and scope of archaeological evaluative and mitigative measures in Greater London districts. Engagement will take the form of 'Heritage Workshops'.
Berkshire Archaeology Surrey County Council Historic Environment Planning Team Buckinghamshire Council Archaeology Service (BCAS)	None to date.	Consultation will be carried out in advance of baseline surveys to discuss the scope of archaeological assessment. Engagement will be ongoing throughout production of baseline surveys, following completion, and during production of the ES to discuss requirement and scope of archaeological evaluative and mitigative measures. Engagement will take the form of 'Heritage Workshops'.

Consultee/s	Engagement undertaken to date	Proposed future engagement
London Borough of Hillingdon Conservation Officer London Borough of Hounslow Conservation Officer London Borough of Richmond upon Thames Conservation Officer London Borough of Ealing Conservation Officer Slough Borough Council Conservation Officer Royal Borough of Windsor & Maidenhead Conservation Officer Spelthorne Borough Council Conservation Officer	None to date.	Consultation will be carried out in advance of baseline surveys to discuss the scope of built heritage assessment. Engagement will be ongoing throughout production of baseline surveys, following completion, and during production of the ES to discuss the requirement and scope of mitigative measures for built heritage assets susceptible to impacts. Engagement will take the form of 'Heritage Workshops'.

13.4 Study Area

13.4.1 Study Area

Scoping

13.4.1.1 For the purposes of Scoping, a core Study Area buffer of 1km around the Scoping Boundary has been used to inform the historical and archaeological baseline,

develop an understanding of the Historic Environment resource within the Scoping Boundary, and to inform the identification of heritage assets which might be affected (either directly and/or indirectly) by the Proposed Development.

13.4.1.2 A 'wider Study Area' of 3km around the Scoping Boundary has been used to identify further designated heritage assets susceptible to indirect impacts from the Proposed Development through changes to their setting.

Baseline Assessments

13.4.1.3 The Study Areas utilised in the baseline assessments are proposed to be consistent with the Scoping Boundary (outlined above). However, the wider Study Area will be reviewed and developed in collaboration with the Landscape and Visual Impact Assessment (LVIA) and associated Zone of Theoretical Visibility (ZTV), the Spatial Noise Model, and consultation with key heritage stakeholders to capture susceptible designated heritage assets beyond the provisional 3km radius.

13.4.1.4 These Study Areas are in line with industry standards for NSIPs, informed by Historic England's 'The Setting of Heritage Assets'[35] and professional experience on large infrastructure projects. As the design of the Proposed Development is still evolving, the Study Areas will be subject to review as detailed design and consultation progresses but will be clearly defined and justified in the ES and baseline assessments.

13.5 Sources of Data used in Scoping

13.5.1 Baseline Sources

13.5.1.1 A series of assessments will be completed in support of the Historic Environment ES Chapter. The scope of these assessments are outlined in further detail in **Section 13.9** and will be subject to consultation with heritage stakeholders, but as a minimum will comprise:

- Historic Environment Appraisal;
- Historic Environment Setting Assessment;
- Geoarchaeological Desk-based Assessment;
- Aerial Imagery, LiDAR analysis and Historic Map Regression; and
- Archaeological Investigation and Research Strategy.

13.5.1.2 Baseline data collection for these assessments is ongoing. The baseline conditions presented in **Section 13.6** represent an initial review of the data collated for these assessments to date, focusing on designated heritage assets within the core and wider Study Areas, utilising data from the National Heritage List for England (NHLE) and other relevant online resources as tabulated below (**Table 13-5**). The locations of designated heritage assets identified from the initial baseline data collection for the core and wider Study Area are shown on **Figure 13.1**.

[35] Historic England. The Setting of Heritage Assets: Historic Environment Good Practice Advice Note 3. December 2017.

Table 13-5: Data sources used for scoping

Source	Relevance to the assessment
British Geological Survey (BGS) [36]	Online geology & borehole data viewer to determine the recorded presence of deposits with archaeological and/or geoarchaeological potential within the Scoping Boundary.
National Heritage List for England (NHLE) [37]	List of designated heritage assets and GIS shapefiles for Scheduled Monuments (SMs), listed buildings, protected wreck sites, Registered Parks and Gardens (RPGs), battlefields, WHS, buildings subject to Building Preservation Notices and/or Certificate of Immunity.
Heathrow Western Hub documents	Heathrow West Appendix 13.1 - Desk-Based Baseline Report[38] Heathrow West Appendix 13.2 – Aerial Photography, LiDAR Analysis, and Historic Map Regression (Interim Statement of Progress) [39] Heathrow West Appendix 13.3 – Historic Environment (Interim) Setting Assessment[40]
Local Authority Websites	Conservation Area (CA) locations and appraisals
Greater London Archaeological Priority Area (APA) Appraisals	APA locations and details for Greater London region.

[36] British Geological Survey. Geology Viewer. N.d. Available at: https://geologyviewer.bgs.ac.uk/ (accessed 08/09/2026)
[37] Historic England. National Heritage List for England Open Data Hub. Available at: https://historicengland.org.uk/listing/the-list/data-downloads/ (accessed on: 08/09/2026)

[38] Heathrow West. Heathrow West Appendix 13.1 – 'Desk-Based Baseline Report'. 2020. Unpublished client document.
[39] Heathrow West. Heathrow West Appendix 13.2 – 'Aerial Photography, LiDAR Analysis, and Historic Map Regression (Interim Statement of Progress)'. 2020. Unpublished client document
[40] Heathrow West. Heathrow West Appendix 13.3 – 'Historic Environment (Interim) Setting Assessment'. 2020. Unpublished client document.

Source	Relevance to the assessment
Surrey Interactive Map	Location and details of CSAIs and AHAPs.
Buckinghamshire Heritage Portal	Location and details of Archaeological Notification Areas (ANAs).
Google Earth Aerial Imagery	Cropmark evidence

13.5.1.3 A more detailed assessment of this data, and additional sources (detailed in **Section 13.9.2**) will be presented within the Historic Environment baseline assessment documents and ES Chapter.

13.6 Baseline conditions

13.6.1 Baseline Description

Core Study Area

Geology

13.6.1.1 The bedrock geology of the Scoping Boundary is London Clay Formation, comprised of clay, silt and sand. Superficial deposits vary across the Scoping Boundary and but include Alluvium and River Terrace Deposits[41] associated with the major rivers and their tributaries (including the River Colne, River Wraysbury, and River Thames) which cross through the Scoping Boundary and core Study Area. These deposits have an increased archaeological potential and are of geoarchaeological interest. However, it is noted that substantial parts of the Scoping Boundary have been subject to historic mineral extraction and landfill activities (see **Chapter 18**). Such groundworks will have resulted in the removal or disturbance of the original superficial and bedrock deposits, and any associated deposits of archaeological and/or geoarchaeological interest, within their respective footprints.

Archaeology

Scheduled Monuments

13.6.1.2 A total of 10 scheduled monuments (SM) are located within the core Study Area, of which four are located wholly within or extend into the Scoping Boundary. The SMs within the Scoping Boundary comprise:

[41] British Geological Survey. BGS Geology Viewer. N.d. Available at: https://geologyviewer.bgs.ac.uk/. (accessed on:18/08/26).

- 'Romano-British site 1000yds W of East Bedfont' (NHLE: 1002042) located within the southern area of the Scoping Boundary in East Bedfont;
- 'Part of a causewayed enclosure, 632m north-east of Mayfield Farm' (NHLE: 1002043) located within the southern area of the Scoping Boundary in East Bedfont; and
- 'Windmill Bridge' (NHLE 1002020) located along the Grand Union Canal in the north-eastern extent of Scoping Boundary; and
- 'Hanwell Flight of locks and brick boundary wall of St Bernard's Hospital' (NHLE 1001963) located along the Grand Union Canal in the north-eastern extent of Scoping Boundary.

13.6.1.3 No details are given on the Historic England listing for the Romano-British site (NHLE: 1002042) as the entry was generated by an 'old county number' (OCN) and has not been updated since 1970. However, faint cropmarks of possible rectilinear enclosures and ring-ditches can be observed on aerial imagery within this area suggesting a later prehistoric and Roman occupation site. The nearby 'causewayed enclosure' SM (NHLE: 1002043) comprises cropmark evidence of a possible Neolithic monument, which similarly can be observed on aerial imagery. Due to the proximity of the cropmarks on aerial imagery, the Romano-British site and causewayed enclosure can be considered part of the same site, forming part of a multi-period complex across several fields. These SMs are noted on Historic England's 'Heritage at Risk' register.

13.6.1.4 Windmill Bridge (NHLE: 1002020) SM is a 19th century cast iron bridge and aqueduct, built at the intersection of three transport routes – the Grand Union Canal, the Great Western Railway, and Windmill Lane. The aqueduct carries the canal over the railway, with the bridge carrying the public road above the canal. The structure was designed by engineer Isambard Kingdom Brunel, and survives as an impressive feat of 19th century engineering. This monument lies adjacent to the boundary wall of 'St Bernard's Hospital' (NHLE: 1001963) which was established in the 1830s to separate the canal's towpath from the hospital. The wall slightly extends into the Scoping Boundary. This same scheduling includes a flight of locks along this stretch of canal, the closest of which is 200m east of the Scoping Boundary.

13.6.1.5 The remaining six SMs within the core Study Area include:

- 'Lord Knyvett's Schoolhouse' (NHLE: 1005920) within Stanwell c.100m south of the Scoping Boundary;
- 'Bronze Age settlement to the west of Runnymede Bridge' (NHLE: 1003807) c.300m south of the Scoping Boundary;
- 'Two concentric ditches showing as cropmarks at Thorney' (NHLE: 1006944) c.50m east of the Scoping Boundary adjacent to the M25;
- 'Roman camp' (NHLE: 1005919) located c.800m to the south of the Scoping Boundary near Staines-Upon-Thames;
- 'Early medieval and medieval palace and associated monuments' (NHLE 1006995) located c.300m west of the Scoping Boundary; and
- 18th century garden feature at Hanworth Park' (NHLE: 1002008) located 800m south-west of the Scoping Boundary.

Archaeological Priority Areas, Areas of High Archaeological Potential, and Archaeological Notification Areas

13.6.1.6 There is a total of 43 APAs within the core Study Area, as designated by GLAAS. Of these, 26 fall within the Scoping Boundary. The central part of the Scoping Boundary, including the existing Heathrow Airport and immediate surroundings, is designated as an APA due to significant archaeological remains recorded during excavations in advance of Heathrow Terminal 5 and associated works, and is noted as having a high potential for early prehistoric remains[42]. The settlements of Harlington, Sipson, Cranford, and West Bedfont as well as their immediate surroundings are also designated as APAs due to their potential for prehistoric remains and, in the case of Sipson, Roman-Medieval finds. The APA appraisal for Cranford also notes a high potential for early medieval remains, including a Saxon village and moated manorial site.

13.6.1.7 The Scoping Boundary extends into five Areas of High Archaeological Potential (AHAPs) as designated by Surrey County Council. This includes 'Staines-upon-Thames historic core' noted for its high potential for multi-period remains from the Mesolithic to present day, an area of Later Prehistoric settlement at Staines Moor noted for its high potential for Neolithic and Bronze Age features, a section of the London to Silchester Roman Road bordering Staines Reservoirs to the south-east, a medieval occupation site to the east of the A30, and a Roman farmstead site straddling the A30 near Egham.

13.6.1.8 The Scoping Boundary extends into two Archaeological Notification Areas (ANAs) as designated by Buckinghamshire County Council. These comprise a small area near Thorney noted for its potential to contain evidence of Neolithic barrows, pits and ditches, and the early 19th century Great Western Railway which intersects the Scoping Boundary on an east to west alignment.

Further Archaeological Remains

13.6.1.9 The assets discussed above demonstrate multi-period activity across both the Scoping Boundary and core Study Area, indicating a potential for further known, and as yet unknown, archaeological remains to be present within the Scoping Boundary.

Built Heritage

Listed buildings and Conservation Areas

13.6.1.10 A total of 580 designated built heritage assets are located within the core Study Area, of which 52 are located within the Scoping Boundary. These comprise 16 conservation areas (CAs), one Grade I listed building, one Grade II* listed building, and 34 Grade II listed buildings. A further 60 designated built heritage assets are encompassed (i.e. surrounded) by the Scoping Boundary despite not falling within it. These comprise one Grade I listed building, three Grade II* listed buildings, and 56 Grade II listed buildings.

[42] CgMs Limited. Archaeological Desk-based Assessment: London Borough of Hillingdon. 2014. Available at: historicengland.org.uk/content/docs/planning/apa-hillingdon-pdf/ (accessed on 27/08/26)

13.6.1.11 The majority of the listed buildings within the Scoping Boundary are concentrated within the settlements of Longford, Harmondsworth, Harlington, Cranford, and Datchet located to the north and north-west of Heathrow Airport, the historic cores of which are also all designated as CAs. These CAs and their respective listed buildings principally reflect the later medieval and post-medieval development of the villages. The majority of listed buildings within these CAs which fall within the Scoping Boundary are Grade II listed, with the exception of the Grade I listed Church of St Peter and St Paul (NHLE: 1080163) in Harlington CA, and the Grade II* listed Church of St Dunstan (NHLE: 1181190) in Cranford Park CA. The Church of St Peter and St Paul (NHLE: 1080163) contains surviving 12th-century fabric alongside later medieval alterations and retains a historic churchyard containing notable yew trees and tomb monuments. The Church of St Dunstan (NHLE: 1181190) is likely 13th century in origin and is associated with the Cranford Park Estate (designated as a CA). The Scoping Boundary also extends slightly into CAs associated with Bedfont Green, Felton, Norwood Green, Canalside, Stanwell, Colnbrook, West Drayton, Iver, Cowley Lock and Staines, but does not include any listed buildings within these. In addition, 15 Grade II listed buildings within the Scoping Boundary are located outside CAs. These assets are predominantly situated along existing roads around the periphery of the Scoping Boundary and largely comprise milestones and bridges.

13.6.1.12 The remaining designated built heritage assets within the core study area comprise 24 CAs, six Grade I listed buildings, 29 Grade II* listed buildings, and 469 Grade II listed buildings. As above, the majority of the listed buildings are concentrated within CAs and/or associated with Registered Park and Gardens (RPGs) (discussed in **Section 13.6.1.16** and **13.6.1.17**) and represent the medieval and post-medieval development of the surrounding landscape. The highest concentrations of listed buildings are within the settlements of Stanwell, Bedfont Green, Staines-upon-Thames, and Egham to the south of the Scoping Boundary; Horton and Datchet to the west of the Scoping Boundary; West Drayton, Hillingdon, and Iver to the north of the Scoping Boundary; and Norwood Green, Hounslow Cavalry Barracks, and Hanwell to the east of the Scoping Boundary.

13.6.1.13 'The Great Barn' (NHLE 1194332) is a Grade I listed building located within Harmondsworth CA. This asset is within an area excluded by the Scoping Boundary but surrounded by it on all sides. The Great Barn is an exceptionally well-preserved 15th-century structure historically associated with Winchester College and is noted by Historic England as being of considerable rarity. Three of the Grade I listed buildings within the core Study Area are churches dating to the 11th to 15th centuries, including the Church of St Mary (NHLE: 1187042) c.200m south of the Scoping Boundary in Stanwell, the Church of St Michael (NHLE: 1117644) c.300m west of the Scoping Boundary in Horton, and the Church of St Peter (NHLE: 1332743) c.400m north-west of the Scoping Boundary in Love Green, Buckinghamshire. The remaining Grade I listed buildings include Runnymede Park (NHLE: 1028921), an 18th century mansion located c.800m south-west of the Scoping Boundary and Wharncliffe Viaduct (NHLE: 1358811),

the first 19th century railway viaduct to use hollow piers in the 19th century c.1km north-east of the Scoping Boundary.

Locally Listed Buildings

13.6.1.14 There are expected to be locally listed buildings and other buildings of heritage interest (non-designated) within the Scoping Boundary and core Study Area which may have the potential to be impacted by the Proposed Development.

Historic Landscape

13.6.1.15 There are five RPGs within the core Study Area. These comprise one Grade I listed RPG, two Grade II* listed RPGs, and two Grade II listed RPGs. None of these fall within the Scoping Boundary itself.

13.6.1.16 The Grade I listed Royal Estate of Windsor Castle and Home Park (NHLE: 1001434) is located c.250m west of the Scoping Boundary at its closest point. This RPG is one of six RPGs that make up the Royal Estate of Windsor Castle. The park represents the historic grounds of Windsor Castle (NHLE: 1117776, 1006996) from the medieval to modern periods, including Windsor Forest (previously used as a deer park), royal garden plots, and ornamental gardens. The castle itself is located within the Home Park RPG (NHLE: 1001434) but outside the Core Study Area and is discussed below as part of the wider Study Area (**Section 13.6.1.19** and **13.6.1.24**).

13.6.1.17 The two Grade II* RPGs within the core Study Area, comprise Osterley Park (NHLE: 1000287) c.80m north-east extent of the Scoping Boundary in Osterley, and Great Fosters (NHLE: 1000303) c.900m south of the Scoping Boundary in Egham, Surrey. The remaining two RPGs are Grade II listed, comprising Ditton Park (NHLE: 1001290) c.60m north-west of the Scoping Boundary near Slough, and Stockley Park (NHLE: 1466074) located directly north of the Scoping Boundary along the Grand Union Canal.

Wider Study Area

Archaeology

13.6.1.18 There are 10 SMs within the wider Study Area.

13.6.1.19 Two of these SMs are situated in Windsor and Old Windsor to the west of the Scoping Boundary and associated with royal and manorial activity of the medieval period. This includes Windsor Castle (NHLE: 1006996) located c.1.5km west of the Scoping Boundary, which is designated both as a SM and as a Grade I listed building (discussed below; **Section 13.6.1.24**). Its scheduling reflects the exceptional archaeological significance of the site, including evidence relating to the castle's construction, development and occupation by successive monarchs[43]. Within the wider Old Windsor area is a scheduled medieval moated site at Tileplace (NHLE: 1013173) c.1.4km west of the Scoping Boundary. There are a

[43] Historic England. Windsor Castle. N.d. Available at: https://historicengland.org.uk/listing/the-list/list-entry/1006996 [Accessed 18/08/26]

further two moated sites to the north-east of the Scoping Boundary in Northolt, including Northolt Manor (NHLE: 1001978) located c.2.5km north-east, and Down Barns Farm (NHLE: 1005552) located 1.8km north-east.

13.6.1.20 Ankerwyke Priory (NHLE: 1007943) SM is located c.1.2 km west of the Scoping Boundary. This late 12th-century monastery site includes the ruins of a 13th-century building (also Grade II listed) together with extensive earthwork remains comprising a moat, fishponds and associated platforms. Further ecclesiastical activity is evidenced by The Shene Charterhouse SM (NHLE: 1412036) located c.2.5km east of the Scoping Boundary in Isleworth. This monastery was founded by Henry V in the 15th century and demolished in the 18th century.

13.6.1.21 The remaining SMs within the wider Study Area comprise:

- Kempton Park Pumping Station (NHLE: 1001977) located c.2km south-east of the Scoping Boundary;
- Old Brew House (NHLE: 1002046) located c.1.5km to the south-east;
- Earthworks on Laleham Burway (NHLE: 1005949) located c.3km to the south; and
- The Isleworth Pottery (NHLE: 1435957) located c.2.1km to the east.

Built Heritage

13.6.1.22 Within the wider Study Area, there are a total of 995 designated built heritage assets, comprising 57 CAs, 32 Grade I listed buildings, 78 Grade II* listed buildings and 828 Grade II listed buildings.

13.6.1.23 The highest concentrations of listed buildings are associated with historic urban centres designated as CAs. This includes Windsor Town Centre and Eton c.1.7km west of the Scoping Boundary, Uxbridge Moor c.1.5km to the north of the Scoping Boundary, Isleworth c.1.6km to the east of the Scoping Boundary, Hampton c.1.8km to the south-east of the Scoping Boundary, and Thorpe and Laleham c.2.5km to the south of the Scoping Boundary. These concentrations reflect the long-established historic settlement pattern of the wider Thames Valley landscape and its close association with royal, ecclesiastical and aristocratic estates.

13.6.1.24 Grade I listed buildings within the wider Study Area include Windsor Castle (NHLE: 1117776), located c.1.5km west of the Scoping Boundary. Windsor Castle is recognised as England's largest castle and royal palace and has origins in the Norman period. The castle has been continually developed and remodelled throughout the medieval, post-medieval and modern periods and remains closely associated with the British monarchy[44]. The castle is situated within its extensive grounds, designated as RPGs (discussed below; **Section 13.6.1.28**) which contain numerous other associated listed structures including Frogmore House (NHLE: 1319304), a 17th century house built for Queen Charlotte, and two royal mausoleums (NHLE: 1117781, 1117780) within Frogmore Gardens RPG (NHLE: 100587), c.1.5km west of the Scoping Boundary. The Grade I listed Eton College (NHLE: 1290278) and numerous Grade II listed buildings are located to the north

[44] Historic England. Windsor Castle including all buildings within the walls. N.d. Available at: https://historicengland.org.uk/listing/the-list/list-entry/1117776 (accessed on 22/09/2026)

of the castle, c.2.1km north-west of the Scoping Boundary. The college was founded by Henry VI in 1440.

13.6.1.25 Many of the Grade I listed buildings within the wider Study Area consist of ecclesiastical buildings or country houses associated with historic estates or gardens. These include seven churches; Church of St Mary (NHLE: 1079414), Church of All Hallows (NHLE: 1080836), Church of St Mary, Middle Green (NHLE: 1135750), Church of St. Laurence (NHLE: 1251379), Parish Church of the Holy Cross (NHLE: 1294306), Church of All Saints (NHLE: 1298923), and Church of St Mary Magdalene (NHLE: 1377699). Grade I listed buildings associated with historic estates include Osterley House (NHLE: 1080308), Syon House (NHLE: 1080318), Kew Observatory (NHLE: 13577290, Boston Manor House (NHLE: 1079603), Strawberry Hill (NHLE: 1261987) and Garrick's Villa (NHLE 1193477). All of these assets represent principal buildings of associated RPGs with multiple associated Grade I, Grade II* and Grade II estate buildings. These include the Grade I listed Syon Park Entrance (NHLE: 1190136), gate lodge (NHLE: 1358308), and conservatory (NHLE: 1358328) associated with Syon House, the Grade I listed Chapel in the Wood (NHLE: 1253028) at Strawberry Hill, the Grade I listed Garrick's Shakespeare Temple (NHLE: 1065456) near Garrick's Villa, and Grade I listed aviary (NHLE: 1080309), temple (NHLE: 1189780), and stables (NHLE: 1358341) in Osterley Park. The aforementioned Syon House (NHLE:1080318) and Kew Observatory (NHLE: 1357729), their associated listed structures and RPGs (NHLE 1000148; 1000830), are also located within the buffer zone for the Royal Botanic Gardens WHS (NHLE: 1000102) (discussed below; **Section 13.6.1.29**).

13.6.1.26 The remaining Grade I listed buildings comprise the 'Group Operations Room' (NHLE: 1392556) c.1.2km to the north-east of the Scoping Boundary, the former Holloway Sanatorium (NHLE 1189632) c.2.6km to the south of the Scoping Boundary, and Royal Holloway College (NHLE: 1028946) c.1.2km to the south-west of the Scoping Boundary.

Historic Landscape

13.6.1.27 There are 18 RPGs within the wider Study Area, including six Grade I listed RPGs, one Grade II* listed RPG, and 11 Grade II listed RPGs. There is also one WHS.

13.6.1.28 The Royal Botanic Gardens WHS (NHLE: 1000102) is located c.3km west of the Scoping Boundary at its closest point, with its buffer zone 2.1km west at its closest point. This WHS is of international significance for its association and key contributions towards the fields of botany and ecology from the 18th century onwards[45]. The Grade I listed Syon Park (NHLE: 1000148) and Kew Gardens (NHLE: 1000830) are located within the buffer zone.

13.6.1.29 Three of the Grade I listed RPGs, comprising Frogmore Gardens (NHLE: 1000587), Windsor Great Park (NHLE: 1000592) and Virginia Water (NHLE: 1001177), form part of the Royal Estate of Windsor to the west of the Scoping Boundary. The remaining Grade I listed RPGs are situated to the east and south-

[45] Historic England. Royal Botanic Gardens, Kew. N.d. Available at: https://historicengland.org.uk/listing/the-list/list-entry/1000102?section=official-list-entry (accessed on 18/08/26)

east and include Kew Gardens (NHLE: 1000830) and Syon Park (NHLE: 1000148) c. 2.2km east of the Scoping Boundary and Bushy Park (NHLE: 1000281) c.1.3km to the south.

13.7 Likely Significant Effects Requiring Assessment

13.7.1.1 The following section outlines the potential sources of impact and the likely significant effects that may arise during the construction, operation and decommissioning phases of the Proposed Development in respect of all aspects of the Historic Environment, comprising buried archaeological remains, built heritage, and the historic landscape. The likely significant effects upon the Historic Environment are summarised in **Table 13-6**.

13.7.2 Construction

Archaeology

13.7.2.1 There is the potential for direct physical impacts to archaeological and geoarchaeological remains during any intrusive works associated with the construction phase of the Proposed Development through a loss or alteration to the archaeological resource within the Scoping Boundary. This includes scheduled remains of national importance, comprising a Romano-British site (NHLE: 1002042), Causewayed Enclosure (NHLE: 1002043), Windmill Bridge (NHLE: 1002020), and Hanwell Flight of Locks (NHLE: 1001963) which are located within or extend into the Scoping Boundary. The presence and sensitivity of any further remains within the Scoping Boundary is currently unknown (in absence of further assessment and/or investigation) but in a worse-case scenario could include remains of equivalent value to a SM (nationally important). The removal and damage of buried archaeological and geoarchaeological remains would be permanent and irreversible. Without mitigation in place, impact could therefore result a significant adverse effect upon the archaeological resource.

13.7.2.2 There is the potential for permanent indirect setting impacts to SMs both within the Scoping Boundary and core and wider Study Areas arising from the removal of associated or contemporary remains by intrusive works and alteration/loss of historically associated land during the construction phase. The introduction of construction activities could also indirectly impact the setting of SMs both visually and audibly. Any changes to the local hydrology such as modifications to watercourse alignments, flood management, and fluctuations to the water table, may also cause indirect but physical impacts to the preservation of paleoenvironmental deposits/remains of archaeological features. These impacts could be temporary or permanent and could result in a significant adverse effect prior to mitigation.

Built Heritage

13.7.2.3 There are numerous built heritage assets within the Scoping Boundary that will be wholly or partially lost during the construction phase of the Proposed Development. This includes designated built heritage assets of up to national

significance such as the Longford, Harmondsworth, Harlington, and Cranford CAs and their associated Grade I, Grade II*, and Grade II listed buildings. The Proposed Development could similarly result in the whole or partial loss of locally listed built heritage assets and other (non-designated) buildings with heritage interest. The extent of this impact will be explored further in the ES Chapter following receipt of relevant Historic Environment Records (HERs), local lists, and discussions with local authorities. The demolition of any built heritage assets would be permanent and irreversible and would result in a significant adverse effect.

13.7.2.4 There is the potential for indirect setting impacts to designated and non-designated built heritage assets within the Scoping Boundary and both core and wider Study Areas, arising from the alteration/loss of historically associated land during the construction phase. The removal of vegetation and the introduction of construction activities could also indirectly impact built heritage assets through visual and audible changes to their settings. These impacts could be temporary or permanent and could result in a significant adverse effect.

Historic Landscape

13.7.2.5 There will be no direct physical impacts to any designated historic landscapes. Direct (physical) impacts to non-designated historic landscapes will arise during the construction phase from alterations to and/or loss of historic landscape features and characters. This could include hedgerows that are classified as 'historically important' under the criteria set out in The Hedgerow Regulations (1997). This could potentially result in significant adverse effects due to the size of the area the alteration/loss would occur in.

13.7.2.6 There is the potential for indirect setting impacts to RPGs within the core and wider Study Areas, as well as the Royal Botanic Gardens WHS in the wider Study Area, arising from the alteration/loss of historically associated land during the construction phase. The introduction of construction activities could also indirectly impact through visual and audible changes to their settings. In the absence of further design information prior to baseline assessments being completed, the potential for significant adverse effects to these designated assets cannot be ruled out.

13.7.3 Operation

Archaeology

13.7.3.1 There is the potential for indirect setting impacts to SMs within the Scoping Boundary, core and wider Study Areas during the operation phase arising from the introduction of new permanent infrastructure and their operations (including air traffic) within their setting. This could include from the loss of historically associated land, the introduction of modern buildings and structures, and increases in artificial light and noise from above ground components such as the terminal buildings, airfield, and runway. These impacts could result in significant adverse effects upon these designated heritage assets prior to mitigation.

13.7.3.2 During the operational phase of the Proposed Development, any changes to the local hydrology such as fluctuations to the water table and groundwater movement, may also cause indirect but physical impacts to the preservation of paleoenvironmental deposits/remains of archaeological features within the core Study Area, which may result in significant adverse effects prior to mitigation.

Built Heritage

13.7.3.3 There is the potential for direct physical impacts to designated and non-designated built heritage assets within the Scoping Boundary and core Study Area from increases in vibrations from air traffic during the operation of the Proposed Development. These impacts could result in significant adverse effects upon these heritage assets prior to mitigation.

13.7.3.4 There is the potential for indirect setting impacts to designated and non-designated built heritage assets within the Scoping Boundary and both core and wider Study Areas during the operation phase arising from the introduction of new permanent infrastructure and their operations (including air traffic) within their setting. This could include the loss of historically associated land, the introduction of modern buildings and structures, increases in vehicular traffic, and increases in artificial light, noise and vibrations from the operation of the terminal buildings, airfield, and runway. These impacts could result in significant adverse effects upon these heritage assets prior to mitigation.

Historic Landscape

13.7.3.5 There is the potential for indirect setting impacts to RPGs within the core and wider Study Areas and the Royal Botanic Gardens WHS within the wider Study Area during the operation phase arising from the permanent changes within their setting. This could include the loss of historically associated land, the introduction of views towards modern buildings and structures, and increases traffic and artificial light and noise. In the absence of further design information prior to baseline assessments being completed, the potential for significant adverse effects to these designated assets cannot be ruled out.

13.7.4 Decommissioning

13.7.4.1 The Proposed Development is assumed to be permanent and as such no foreseeable decommissioning phase has been identified. No change (e.g. damage, removal, or changes to setting) to the archaeological, built heritage, or historic landscape resource is therefore anticipated.

Table 3-6: Likely significant Historic Environment effects

Activity	Effect	Receptor
Construction		
Enabling works for development including topsoil removal, service installation, scrub and tree clearance, and drainage.	Direct, permanent and potentially total loss of heritage asset. Indirect, permanent and/or temporary changes to the setting of a heritage asset.	Designated and non-designated heritage assets within the footprint of works including archaeological remains, built heritage, and historic landscapes. Designated and non-designated heritage assets within the core and wider Study Area, including archaeological remains, built heritage, and historic landscapes.
Groundworks associated with the construction of buildings or other infrastructure including terminal buildings, associated airfield and runway, and supporting facilities	Direct, permanent, and potentially total loss of heritage assets. Indirect, permanent and/or temporary changes to the setting of a heritage asset.	Designated and non-designated heritage assets within the footprint of works including archaeological remains, built heritage, and historic landscapes. Designated and non-designated heritage assets within the Scoping Boundary, core and wider Study Areas.
Changes to transport and access including highway infrastructure, tunnels, bridges and ramps, parking, and rail alignments	Direct, permanent, and potentially total loss of heritage assets. Indirect, permanent and/or temporary changes to the setting of a heritage asset	Non-designated and potentially designated heritage assets (archaeology, built heritage, historic landscape) within the footprint of new access or construction activities associated with re-routing. Designated and non-designated heritage assets (archaeology, built heritage, historic landscape) located within the core and wider Study Areas.

Activity	Effect	Receptor
Changes to river alignments and flood management (e.g. new channels, infilling, landscaping, flood storage areas, flood defense infrastructure)	Direct, permanent and potentially total loss of heritage assets. Indirect, permanent and/or temporary changes to a heritage asset.	Archaeological and geoarchaeological remains (presence and value TBC). Designated and non-designated heritage assets within core and wider Study Areas.
Operation		
Aviation and Terminal operation: increased visibility, noise, and vibrations of operations.	Indirect and/or direct, permanent and/or temporary changes to a heritage asset.	Designated and non-designated heritage assets (archaeology, built heritage, historic landscape) located within the core and wider Study Areas.
Increased traffic due to growth in airport capacity	Indirect, permanent and/or temporary changes to the setting of a heritage asset.	Designated and non-designated heritage assets (archaeology, built heritage, historic landscape) located within the core and wider Study Areas.
Introduction of new permanent infrastructure	Indirect, permanent and/or temporary changes to the setting of a heritage asset.	Designated and non-designated heritage assets (archaeology, built heritage, historic landscape) located within the core and wider Study Areas.
Changes to hydrology	Indirect, permanent and/or temporary changes to a heritage asset.	Designated and non-designated heritage assets within core and wider Study Areas.

13.8 Effects Not Requiring Assessment

13.8.1.1 No effects have been scoped out of the assessment at the scoping stage of the Proposed Development, pending completion of baseline surveys, more defined design details and further engagement with stakeholders. The ES Chapter will

discuss the absence of significant effects for certain receptors or phases where this is supported by baseline surveys with relevant stakeholders.

13.9 Proposed Approach to Assessment

Baseline Assessments

13.9.1.1 The following baseline assessments are proposed to be completed as a minimum, but will be subject to further consultation with key heritage stakeholders.

Historic Environment Appraisal

13.9.1.2 Following the collection of baseline data, a detailed Historic Environment Appraisal will be undertaken to:

- Identify the location of all non-designated and designated heritage assets in the core Study Area;
- Identify the location of all designated heritage assets in the wider Study Area;
- Provide a detailed baseline of the Scoping Boundary which places it within its archaeological and historical context;
- Predict the potential for as-yet unknown heritage assets to be present within the Proposed Development area; and
- Assess the likely impacts arising from the Proposed Development.

13.9.1.3 The Historic Environment Appraisal will be compiled into a technical supporting document and appended to the Historic Environment ES Chapter.

Historic Environment Setting Assessment

13.9.1.4 Following the collection of baseline data, a detailed Historic Environment Setting Assessment will be produced to;

- Identify heritage assets within the core and wider Study Areas which may be impacted by the Proposed Development including through analysis of the ZTV, Lighting Strategy, and Spatial Noise Models, in line with the draft HENPS and Historic England's 'Aviation Noise Metric' guidance document;
- Determine the heritage value (sensitivity) of the heritage asset(s) identified;
- Assess the setting of key identified heritage asset(s) and how the Scoping Boundary contributes to the value of the assets; and
- Assess the likely impacts arising from the Proposed Development.

13.9.1.5 This assessment will be compiled into a technical supporting document and appended to the Historic Environment ES Chapter.

Geoarchaeological Desk-based Assessment

13.9.1.6 A Geoarchaeological Desk-Based Assessment will be produced to establish the baseline geoarchaeological resource within the Scoping Boundary. This will draw upon relevant, publicly available ground investigation data and include an

assessment of geoarchaeological potential. The scope of this assessment will be discussed with heritage stakeholders, post-scoping.

Aerial Photography, LiDAR and Historic Mapping Analysis

13.9.1.7 A detailed assessment of aerial photography/imagery, LiDAR data and historic mapping will be produced for the Scoping Boundary and immediately surrounding area (defined in consultation with relevant stakeholders). This assessment will aim to:

- Undertake historic map regression to understand the historic development of the Scoping Boundary and surrounding area;
- Identify, map, and record previously unrecorded and known archaeological sites, earthworks, cropmarks, and historic landscape features which may be impacted by the Proposed Development;
- Assess the survival, condition, and extent of historic landscape features; and
- Identify areas of previous disturbance that may influence the survival of archaeological remains.

13.9.1.8 This will draw upon relevant information within the Aerial Photography, LiDAR Analysis, and Historic Map Regression (Interim Statement of Progress)[46] (HWL-RHD-1000-GHE-TA-00068), produced for the former HWL scheme.

Evaluation

Archaeological Fieldwork

13.9.1.9 The scope and methodology of any archaeological fieldwork within the Scoping Boundary will be developed in consultation with the relevant heritage stakeholders. Any intrusive archaeological works will be undertaken in accordance with a Written Scheme of Investigation (WSI), which will be survey-specific and will set out the proposed aims, methods, and reporting requirements. The WSIs will be submitted for stakeholder review and approval prior to the commencement of fieldwork.

Archaeological Investigation & Research Strategy

13.9.1.10 An Archaeological Investigation and Research Strategy (AIRS) will be produced following the completion of baseline assessments and any evaluative fieldwork (discussed above), in consultation with Historic England and LPA Archaeologists. The document will identify areas of the Scoping Boundary suitable for, and requiring, archaeological survey and outline a phased approach to archaeological evaluation and mitigation. This may include further non-intrusive (geophysical survey) and intrusive (trial trenching) evaluation, geoarchaeological investigations and/or open-area excavations) investigations.

13.9.1.11 The AIRS will be separate to any WSIs, which will be survey-specific and discussed with stakeholders prior to fieldwork taking place. These WSIs will

[46] Heathrow West. Heathrow West Appendix 13.2 – 'Aerial Photography, LiDAR Analysis, and Historic Map Regression Interim Statement of Progress'. 2020. Unpublished client document

establish the approach to dissemination of fieldwork results and opportunities for public outreach, in line with the draft HENPS and CIfA guidance.

Standards and guidance

13.9.1.12 The baseline surveys will be carried out in accordance with all relevant standards and guidance. These are tabulated in **Table 13-4**.

Methodology

13.9.1.13 The assessment methodology detailed below will be used to assess impacts and effects upon heritage assets within the ES and is in accordance with criteria set out in Standards for Highways Design Manual for Roads and Bridges (DMRB) LA 104 Environmental Assessment and Monitoring[47]. Whilst the DMRB LA 104 Guidance was published to inform the assessment of highways schemes, it is a widely adopted methodology for assessing impacts on the Historic Environment for all types of projects, including the scale, size and nature of the Proposed Development. It is considered to comprise best practice guidance for the assessment of likely significant effects on the Historic Environment from the Proposed Development.

Value (sensitivity of resource)

13.9.1.14 An assessment of the value of heritage assets will be undertaken on a 5-point scale of Very High, High, Medium, Low, Negligible. In some cases, the value may be unknown and further assessment to gauge the value will be required. Assessment of value will be based mainly upon existing designations but will allow for professional judgement where assets do not have any formal national or local designation. The criteria used to assess the value of heritage assets is presented in **Table 13-7**. This is derived from Table 3.2N in DMRB (LA 104).

Table 13-7 - Criteria for grading the value of heritage assets

Value of Heritage Asset	Typical Description
Very High	Very high importance and rarity, international scale and very limited potential for substitution
High	High importance and rarity, national scale, and limited potential for substitution

[47] Standards for Highways. Design Manual for Roads and Bridges LA 104 'Environmental Assessment and Monitoring'. 2020. Available at: https://www.standardsforhighways.co.uk/search/0f6e0b6a-d08e-4673-8691-cab564d4a60a (accessed on 28/09/2026)

Medium	Medium or high importance and rarity, regional scale, limited potential for substitution
Low	Low or medium importance and rarity, local scale.
Negligible	Very low importance and rarity, local scale.

Magnitude of Impact

13.9.1.15 Magnitude of impact is the degree of change that would be experienced by a heritage asset and its setting during the construction, operation and decommissioning phases of the Proposed Development. The magnitude of impact is assessed without reference to the value of the heritage asset and could include physical impacts or impacts on setting.

13.9.1.16 Effects may be temporary or permanent, direct or indirect, and adverse, beneficial or may result in no change. The magnitude of impact will be assessed using a five-point scale of Major, Moderate, Minor, Negligible, and No Change. The assessment is based on professional judgement and follows criteria provided in the DMRB LA 104 Guidance. Factors in the assessment of the magnitude of impact for all heritage assets are presented in **Table 13-8**.

Table 13-8: Criteria for grading the magnitude of impact upon heritage assets

Value of Heritage Asset		Typical Description
Major	Adverse	Change to most or all key archaeological materials, such that the resource is totally altered. Comprehensive changes to setting. Change to key historic building elements, such that the resource is totally altered. Comprehensive changes to setting. Change to most or all key historic landscape elements, parcels or components; extreme visual effects; gross change of noise or change to sound quality; fundamental changes to use or access; resulting in total change to historic landscape character unit.
	Beneficial	Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality.

Value of Heritage Asset		Typical Description
Moderate	Adverse	Changes to many key archaeological materials, such that the resource is clearly modified. Considerable changes to setting that affect the character of the asset. Change to many key historic building elements, such that the resource is significantly modified. Changes to the setting of an historic building, such that it is significantly modified. Changes to many key historic landscape elements, parcels or components, visual change to many key aspects of the historic landscape, noticeable differences in noise or sound quality, considerable changes to use or access; resulting in moderate changes to historic landscape character.
	Beneficial	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality.
Minor	Adverse	Changes to key archaeological materials, such that the asset is slightly altered. Slight changes to setting. Change to key historic building elements, such that the asset is slightly different. Change to setting of an historic building, such that it is noticeably changed. Changes to few key historic landscape elements, parcels or components, slight visual changes to few key aspects of historic landscape, limited changes to noise levels or sound quality; slight changes to use or access resulting in limited changes to historic landscape character.
	Beneficial	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements;

Value of Heritage Asset		Typical Description
		some beneficial impact on attribute or a reduced risk of negative impact occurring.
Negligible	Adverse	Very minor changes to archaeological materials or setting. Slight changes to historic buildings elements or setting that hardly affect it. Very minor changes to key historic landscape elements, parcels or components, virtually unchanged visual effects, very slight changes in noise levels or sound quality; very slight changes to use or access; resulting in a very small change to historic landscape character.
	Beneficial	Very minor benefit to or positive addition of one or more characteristics, features or elements.
No change		No loss or alteration of characteristics, features or elements; no observable impact in either direction.

Significance of Effect

13.9.1.17 The significance of effect upon heritage assets will be determined as a combination of the assessment of the value of the asset and the magnitude of impact. This is achieved using professional judgement informed by the matrix provided in the DMRB LA 104 Guidance, as presented in **Table 13-9**.

13.9.1.18 Five levels of significance (Very Large, Large, Moderate, Slight or Neutral) are defined which apply equally to adverse and beneficial effects. Where two levels of significance of impact are given in the table (for example, Neutral or Slight), evidence will be provided to support the assessment of a single significance category. A significance of effect of moderate or above is taken to be significant.

Table 13-9 - Matrix for assessing significance of effect upon heritage assets

Value of Heritage Asset		Magnitude of Impact (Change)				
		No Change	Negligible	Minor	Moderate	Major
	Very High	Neutral	Slight	Moderate or Large	Large or Very Large	Very Large
	High	Neutral	Slight	Slight or Moderate	Moderate or Large	Large or Very Large
	Medium	Neutral	Neutral or Slight	Slight	Moderate	Moderate or Large
	Low	Neutral	Neutral or Slight	Neutral or Slight	Slight	Slight or Moderate
	Negligible	Neutral	Neutral	Neutral or Slight	Neutral or Slight	Slight

13.9.2 Additional Baseline Information Required

13.9.2.1 An initial dataset, as outlined in **Section 13.5**, has been collated for the purposes of scoping and includes a review of NHLE data encompassing the core and wider Study Area. In addition to the sources reviewed for scoping, further data is in the process of being collected to inform the baseline assessments ahead of the ES. This includes:

- Commercial searches of relevant HERs including Greater London HER, Surrey HER, Berkshire HER, and Buckinghamshire HER for the core Study Area.
- A detailed review of historic Aerial Photography, LiDAR data and historic mapping to identify heritage assets within the Scoping Boundary and track historic land use. The scope of this will be established in further consultation with heritage stakeholders.
- A heritage walkover survey. This includes a visual and photographic assessment of the Scoping Boundary and susceptible heritage assets within the core and wider study area, and a visit to relevant local archives to review historic maps and documents.
- Relevant primary and secondary sources including published and unpublished reports relating to previous investigations and local authority Conservation Area appraisals.

13.9.2.2 If the Study Area changes, these sources will be reviewed, and updated data will be collated to ensure an accurate and robust dataset.

13.9.2.3 A programme of archaeological evaluation will be carried out to confirm the presence (or absence) and significance of archaeological remains within the Scoping Boundary. This is likely to include geophysical surveys, trial trenching, and geoarchaeological investigations. The requirement, scope and

timings of these investigations will be discussed in consultation with the LPA Archaeologist/s and/or Historic England (as relevant). The results will feed into the ES Chapter and will inform the requirement and scope of further specialist evaluation and mitigation measures.

13.9.2.4 Any geotechnical works undertaken for the Proposed Development will be subject to archaeological and/or geoarchaeological review and monitoring (as appropriate). The requirement and scope of this will be discusseed with the relevant heritage stakeholders and the results will be incorporated into the Geoarchaeological Desk-Based Assessment and ES Chapter, as relevant.

13.9.2.5 A programme of historic building recordings will be undertaken to inform an understanding of the character, significance, development, and condition of built heritage assets that may be directly affected by the Proposed Development. The requirement, scope and timings of this work will be discussed in consultation with the LPA Conservation Officers and Historic England (where appropriate). The results will feed into the ES Chapter and inform the requirement and scope for any further recording, mitigation, or conservation measures.

13.9.3 Cumulative Effects

13.9.3.1 Cumulative Historic Environment effects resulting from the combination of effects from the Proposed Development and other nearby developments will be assessed in accordance with the methodology set out in **Chapter 24** and relevant CIfA and Historic England guidance. Historic England guidance and the CIfA/ISEP (formerly IEMA) principles indicate that cumulative assessment should follow the same significance-based approach used for the primary assessment, considering how effects combine over time or with other developments. The assessment will be dependent on the availability and accessibility of information for other developments.

13.9.4 In-Combination Effects

13.9.4.1 The Historic Environment chapter will account for, and be informed by, separate discipline inputs in the course of impact assessment (for example landscape and visual elements of a setting assessment, impact on amenity/community value of a listed building, noise and vibration assessments). As such, at the completion of the impact assessment within this chapter it is unlikely in-combination effects will highlight impacts beyond those already considered.

13.9.5 Limitations and Assumptions

13.9.5.1 Data used to inform the Historic Environment baseline assessments and compile the ES chapter, will consist of secondary information derived from a variety of sources. The assumption is made that this data, as well as that derived from other secondary sources, is suitably accurate. However, this does not preclude the subsequent discovery of further heritage assets that are, at present, unknown, notably buried archaeological remains.

13.9.5.2 As referred to above, the results of a programme of archaeological evaluation will feed into the baseline of the ES chapter. These evaluative investigations will reduce the risk that previously unidentified archaeological remains may be present within the Scoping Boundary, although there will remain a potential for known and previously unknown archaeological remains to be present within any areas of the Scoping Boundary not subjected to or suitable for evaluation (i.e. woodland/vegetation, brownfield sites and highway/hardstanding). However, it is expected that a sufficient percentage of land within the Scoping Boundary will have been surveyed as part of the assessment, to inform the likely potential and allow for a robust assessment of likely effects.

13.10 Proposed Approach to Mitigation

13.10.1.1 The proposed approach to mitigation is presented in **Chapter 4**. The mitigation measures that may be used to avoid, reduce or offset likely significant adverse effects to the Historic Environment are outlined below.

Primary Mitigation

13.10.1.2 The Proposed Development will be designed to avoid impacts to the Historic Environment where practicable.

13.10.1.3 The results of the baseline assessments and archaeological evaluation (geophysical survey and trial trenching) will inform the presence and value of archaeological remains within the Scoping Boundary and inform a proportionate mitigation strategy. In the instance of high value archaeological remains (of equivalent value to SMs) should be found, mitigation through design (i.e avoidance/preservation in-situ) may be considered if feasible.

13.10.1.4 With regards to indirect effects upon the setting of heritage assets, primary mitigation may involve specific design requirements to limit potential impacts. This may include re-positioning access roads to avoid historic entranceways and views; adjusting building heights/ layouts to minimise visual impacts; using building materials appropriate to the historic character of the area or to maintain historic architectural cohesion; and use of sensitive lighting. Mitigation may also include the creation of effective long-term and permanent visual or acoustic screening. Screening must be subject to careful design, including permanence and longevity (i.e. securing management measures for vegetation), as it may itself result in a further impact to the setting of the heritage asset. The exact primary mitigation measures used should be informed by the results of the baseline assessments outlined in this chapter, which will feed into Proposed Development's evolving design.

Secondary Mitigation

13.10.1.5 Where impacts upon heritage assets cannot be avoided, mitigation by record may be required. This could include historic building recordings, open area/'strip, map, and sample' excavations, geoarchaeological and

paleoenvironmental investigations and/or archaeological monitoring and recording actions.

Tertiary Mitigation

13.10.1.6 Tertiary mitigation will comprise construction good practice measures secured through the Construction Environmental Management Plan (CEMP). These measures would include but would not be limited to: minimising visual intrusion through the use of temporary fencing which would help to reduce the visibility of construction activities; implementation of considerate construction practices including site hoarding and tidy working methods and control of access routes, materials storage and compound locations to avoid unnecessary encroachment on, or near to, sensitive heritage assets.

13.11 Summary

Table 13-10: Elements scoped in/out of Historic Environment assessment

Discipline	Scoped In Elements	Scoped Out Elements
Historic Environment	Direct and indirect impacts to designated and non-designated heritage assets for construction, operation and decommissioning phases.	No elements have been scoped out at this stage.

Environmental Impact Assessment Scoping Report

Chapter 14

Health

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14 Health

14.1 Introduction

14.1.1.1 This Chapter of the Environmental Impact Assessment (EIA) Scoping Report has been prepared by Stantec UK Ltd and sets out the proposed scope of the assessment of likely significant effects on health associated with the Proposed Development. The Chapter identifies the relevant policy and legislative context, proposed study area, baseline data sources, sensitive receptors and potential health pathways to be considered as part of the Environmental Statement (ES).

14.1.1.2 The health assessment will consider how the Proposed Development may influence health determinants during construction, operation and decommissioning, including changes associated with air quality, noise and vibration, transport and access, employment and local economy, community severance, access to services and facilities, and open space and recreation where relevant. The assessment will be informed by relevant health impact assessment guidance and will draw on the findings of other technical assessments within the ES to identify any likely significant effects on population and human health. A general description of the Proposed Development, Site and surrounding context is provided in the introductory chapters of this Scoping Report and is not repeated here.

14.1.1.3 The effects in this chapter interact strongly with the effects in the following chapters insofar as they collectively reflect 'population and human health' effects that are required to be assessed by EIA regulations. This chapter assesses the likely potential significant effects arising from the construction and operation of the Proposed Development on the physical and mental health and wellbeing of people, including through changes to relevant environmental, social and economic determinants of health.

- **Chapter 10: Community** – this chapter assesses the likely potential significant effects of the Proposed Development with respect to community receptors, including effects on residents and their homes, community facilities and their users, and public services and their users.
- **Chapter 11: Economics and Employment** – this chapter assesses the likely potential significant effects of the Proposed Development with respect to socio-economics and employment receptors, including effects on businesses, employment, skills and the labour market, airlines and airline users, and the wider economy.
- **Chapter 12: Recreation** – this chapter assesses the likely potential significant effects of the Proposed Development on recreation receptors, including effects on recreational routes and spaces and the people who use them.

14.1.1.4 The Health chapter should be read in conjunction with the scoped effects identified in these chapters, The assessments have been coordinated to ensure that related effects are considered consistently, avoid unnecessary duplication and provide proportionate and focused reporting. Cross-reference will be made to the relevant topic chapters where appropriate. The approach to the assessment will be in overall conformity with that set out in **Chapter 4: Approach to EIA**, and any planned divergence from the general approach is set out where relevant in this chapter. As well as being closely related to the population and health effects across the respective chapters, the health assessment will also draw on the findings of the following assessments:

- **Chapter 5: Air Quality and Odour**;
- **Chapter 15: Landscape, Townscape and Visual Impact**;
- **Chapter 19: Major Accidents and Disasters**;
- **Chapter 20: Nosie and Vibration**; and
- **Chapter 21: Traffic and Transport**.

Supporting Appendices

14.1.1.5 This chapter should be read in conjunction with **Appendix 14.1** and **14.2** which sets out:

- **Appendix 14.1: Local Planning and Health Policy Documents** – Relevant local planning and health policy documents for the relevant 11 Local Planning Authorities.
- **Appendix 14.2: Health Baseline** – An initial review of the baseline characteristics of the study areas considered in the health assessment.

14.2 Policy, Legislation and Guidance

14.2.1.1 This section identifies the health-related policy and legislative context that has informed the scope of the assessment, including the identification of relevant health determinants, sensitive population groups and the study area. The assessment will be undertaken in the context of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations)[1], which require consideration of likely significant effects on health.

14.2.1.2 Relevant policy, legislation and guidance applicable to the assessment of health are presented below in **Table 14-1**: Policy relevant to the Health Assessment

Relevant Policy	Relevance to assessment
Policy – International	
No international policies have been considered relevant to this Health assessment.	

[1] UK Government 2017. *The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017* (SI 2017 No. 572). Made 18 April 2017. Came into force 16 May 2017. Available at: The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (accessed on: 13/07/2026).

Relevant Policy	Relevance to assessment
Policy – National	
Draft Heathrow Expansion National Policy Statement (HENPS) (June 2026)	The draft HENPS sets out the Government's proposed policy framework for Heathrow expansion and the matters to be considered in any future Development Consent Order (DCO) application. The draft HENPS places particular emphasis on addressing the potential effects of expansion on communities and the environment, including matters such as air quality, noise, surface access, community impacts and mitigation. These topics represent important determinants of health and will therefore be considered within the Health assessment where relevant to the Proposed Development.
Draft Heathrow Expansion National Policy Statement (HENPS) Health Impact Analysis (HIAn) (June 2026)	The draft HENPS HIAn provides a systematic assessment of the potential health effects associated with Heathrow expansion, including effects on vulnerable populations and health inequalities. The HIAn identifies a range of pathways through which expansion could influence health and wellbeing, including employment, education and skills, housing, noise, air quality, community cohesion and access to infrastructure and services. The Health assessment will have regard to the findings of the HIAn when identifying relevant health determinants, population groups and potential pathways to effect associated with the Proposed Development.
Airports National Policy Statement (ANPS)	The ANPS sets out the Government's policy on the need for additional airport capacity in the South East of England and provides the primary basis for decision-making on DCO applications for a Northwest Runway at Heathrow Airport. It establishes the planning framework and identifies the key considerations that must be addressed as part of any future airport expansion proposals. The ANPS places significant emphasis on the assessment and mitigation of environmental and community effects associated with airport development, including air quality, noise, surface

Relevant Policy	Relevance to assessment
	access, climate change, community impacts, biodiversity, and health. These factors represent important determinants of health and will therefore be considered within the Health assessment, where relevant to the Proposed Development.
Fit For The Future: 10 Year Health Plan for England (July 2025)	This Plan establishes a national framework for improving population health, reducing health inequalities and supporting a greater focus on prevention and community wellbeing. The Health assessment will have regard to these objectives by considered the potential effects of the Proposed Development on health determinants, vulnerable populations and health inequalities, and by identifying opportunities to promote positive health outcomes where appropriate.
The Environmental Improvement Plan (2023)	This Plan establishes objectives for improving environmental quality and enhancing the natural environment for the benefit of current and future generations. The Health assessment will have regard to these objectives by considering the potential effects of the Proposed Development on environmental determinants of health, including air quality, green infrastructure, biodiversity and access to natural environments, and the implications of these factors for population health and wellbeing.
Overarching Aviation Noise Policy (OANP) (2023)	The OANP establishes the Government's objective to limit and, where possible, reduce the adverse effects of aviation noise on health and quality of life. The Health assessment will have regard to these objectives by considering the potential effects of the Proposed Development on noise exposure, including potential implications for wellbeing, sleep disturbance, community amenity and vulnerable populations.
Air Quality Strategy (2023)	This Strategy for England provides a framework for improving air quality and achieving national air quality objectives, including reducing exposure to fine particulate matter ($PM_{2.5}$) and other pollutants harmful to human health. The Health assessment will have regard to these objectives by considering the potential effects of the Proposed Development

Relevant Policy	Relevance to assessment
	on air quality, health inequalities and population exposure to pollutants, and the implications of these effects for human health and wellbeing
The National Planning Policy Framework (NPPF) (August 2026)	The NPPF, published in August 2026, seeks to support strong, vibrant and healthy communities and to protect health through climate adaptation, environmental protection and the minimisation of pollution. Chapter 16, Promoting Healthy Communities, provides the principal policy context for the Health Assessment, including through policies supporting active travel, recreational opportunities, community facilities and public service infrastructure, open space, social interaction and measures to reduce health inequalities. In addition, Policy P3(1) and P3(2) within Chapter 17, Pollution, public protection and security, require planning decisions to ensure that development is appropriate for its location by taking into account the potential effects of pollution and other public protection risks on health, living conditions and the natural environment, and to prevent unacceptable risks to public health from new or existing sources of pollution. These policies provide an important framework for considering the health implications of environmental exposures, including air quality, noise, contaminated land, artificial light and other factors that may influence wellbeing. Health and wellbeing are also supported through wider policies relating to climate resilience, inclusive design, sustainable transport, pollution, green infrastructure, flood risk, employment and access to services. The Health Assessment will have regard to these policies by considering the potential effects of the Proposed Development through defined health pathways, including air quality, noise, transport and accessibility, road safety and severance, employment and income, climate-related risks, open space and access to healthcare, education and community facilities. Where appropriate, the assessment will draw on the findings of other technical assessments and consider whether beneficial or adverse effects may be distributed unevenly between population groups,

Relevant Policy	Relevance to assessment
	including groups that may experience greater susceptibility or disadvantage.
Flightpath to the Future (2022)	This establishes the Government's strategic priorities for the future development of the aviation sector, including sustainable growth, innovation, environmental improvement and the delivery of benefits for communities. The Health assessment will have regard to these objectives by considering the potential implications of the Proposed Development for local communities, including effects associated with aviation noise, air quality, transport, employment and other determinants of health and wellbeing.
Jet Zero Strategy (2022)	This Strategy establishes the Government's approach to decarbonising the aviation sector and achieving net zero aviation emissions by 2050. The Health assessment will have regard to these objectives by considering the potential effects of the Proposed Development on environmental determinants of health, including air quality and climate change, and by recognising the importance of sustainable aviation growth that seeks to minimise adverse effects on communities and human health.
Policy – Regional	
The London Plan (2021)	The London Plan promotes a holistic approach to health and wellbeing through 'Policy GG3 Creating a Healthy City', which seeks to improve health outcomes, reduce health inequalities and ensure that the health implications of development proposals are appropriately considered. The Health assessment will have regard to these objectives by assessing the potential effects of the Proposed Development on physical and mental health, wellbeing and health inequalities, including impacts on the wider determinants of health. The assessment will also consider relevant London Plan policies relating to air quality, noise, skills and employment opportunities, community cohesion, transport and aviation, where these influence population health and wellbeing.

Relevant Policy	Relevance to assessment
Draft London Plan (2026)	The Draft London Plan (2026) continues to promote a healthy, sustainable and inclusive approach to growth across London and places particular emphasis on ensuring that major infrastructure proposals support Good Growth objectives. Of particular relevance to the Proposed Development is Policy GLE9: Aviation, which recognises the strategic economic role of aviation while requiring the environmental and social effects of airport development to be appropriately managed, including impacts relating to air quality, noise, transport connectivity, climate change and local communities. The policy also highlights the importance of sustainable surface access and ensuring that aviation growth does not undermine wider spatial, environmental and public health objectives. The Health assessment will have regard to these principles by considering the potential health and wellbeing implications of the Proposed Development, including effects associated with aviation noise, air quality, transport and accessibility, employment and skills opportunities, community cohesion and health inequalities. The assessment will also consider how mitigation and enhancement measures can support positive health outcomes and help ensure that the benefits of airport expansion are realised while adverse effects on local communities are minimised.
Policy – Local	
Relevant local planning and health policy documents for the relevant 11 Local Planning Authorities will be reviewed, including Local Plans, JSNAs, Joint Health and Wellbeing Strategies (JHWSs) and Annual Public Health Reports. These documents will be used to inform the health baseline, identify local health priorities, vulnerable population groups and existing health inequalities, and provide context for the assessment of potential health effects associated with the Proposed Development. The relevant local planning and health policy documents are provided in **Appendix 14.1**.	

Table 14-2: Legislation relevant to the Health Assessment

Relevant Legislation	Relevance to assessment
Legislation– International	
No international legislation has been considered relevant to this Health assessment.	
Legislation – National	
The Health and Social Care Act (2022)	This Act promotes a more integrated approach to health and social care provision and places increased emphasis on improving population health and reducing health inequalities. The Health assessment will have regard to these objectives when considering the potential effects of the Proposed Development on local communities, vulnerable populations and health-related infrastructure.
The Equality Act 2010	This Act seeks to prevent discrimination and advance equality of opportunity for individuals with protected characteristics. The Health assessment will have regard to these objectives by considering the potential for disproportionate effects on protected and vulnerable groups, and by assessing how the Proposed Development may affect health inequalities and access to health-supporting infrastructure, services and opportunities. A separate Equality Impact Assessment (EqIA) will also be produced.
The Planning Act 2008	This Act provides the statutory framework for the DCO process for Nationally Significant Infrastructure Projects (NSIPs). The Health assessment will be undertaken in accordance with this framework and will identify and assess the likely significant effects of the Proposed Development on the health and wellbeing of local communities, including potential effects on health inequalities and relevant determinants of health.
The Local Government and Public Involvement in Health Act 2007	This Act promotes partnership working to improve health and wellbeing at the local level and provides the basis for the preparation of Joint Strategic Needs Assessments (JSNAs) and local health and wellbeing strategies. These documents will be used

Relevant Legislation	Relevance to assessment
	to inform the Health assessment by identifying local health priorities, vulnerable populations and existing health inequalities relevant to the Proposed Development.
Environment Act (2021)	This Act establishes legally binding targets to improve environmental quality and supports the protection and enhancement of the natural environment. The Health assessment will have regard to these objectives by considering the potential effects of the Proposed Development on environmental determinants of health, including air quality, biodiversity, green infrastructure and access to natural environments, and the implications of these factors for population health and wellbeing.
The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023	The Regulations establish statutory targets to reduce ambient concentrations of $PM_{2.5}$ and population exposure to fine particulate matter in England. The Health assessment will have regard to these objectives by considering the potential effects of the Proposed Development on air quality, exposure to $PM_{2.5}$ and associated implications for population health, health inequalities and vulnerable communities.
The Control of Major Accident Hazards (COMAH) Regulations 2015	These Regulations seek to prevent major accidents involving hazardous substances and minimise the consequences of any such events for human health and the environment. The Health assessment will be informed by the findings of the Major Accidents and Disasters assessment (**Chapter 19**), which considers potential major accident risks, emergency response arrangements and mitigation measures relevant to the Proposed Development and surrounding communities.
Legislation – Regional	
No regional legislation has been considered relevant to this Health assessment.	
Legislation – Local	
No local legislation has been considered relevant to this Health assessment.	

Table 14-3: Guidance relevant to the Health assessment

Relevant Guidance	Relevance to assessment
Guidance– International	
Institute of Public Health (IPH) Health Impact Assessment Guidance: A Manual and Case Study (2021)	This guidance sets out best practice for undertaking Health Impact Assessment and provides tools and methodologies for identifying, assessing and managing the health implications of policies, plans and projects. The Health assessment will have regard to the principles of this guidance when considering the potential effects of the Proposed Development on physical, mental and social wellbeing, health inequalities and the wider determinants of health, and in identifying measures to enhance beneficial outcomes and mitigate adverse effects.
International Association for Impact Assessment (IAIA) and European Public Health Association (EPHA) Human Health: Ensuring a High Level of Protection (2020)	This guidance sets out international good practice for addressing human health within Environmental Impact Assessment and promotes consideration of population health, health inequalities and the wider determinants of health throughout the EIA process. The Health assessment will have regard to these principles when identifying, assessing and mitigating potential health effects associated with the Proposed Development.
World Health Organization (WHO), Compendium of WHO and Other UN Guidance on Health and Environment, 2024 update	The Compendium provides an international evidence base on the relationship between environmental conditions and human health and brings together WHO and UN guidance on reducing environmental health risks and promoting healthier communities. The Health assessment will have regard to this evidence when identifying and assessing potential effects associated with key health determinants, including air quality, climate change, noise, transport, access to healthy environments and health inequalities.
IAIA Health Impact Assessment, International Best Practice Principles (2021)	This guidance provides international best practice for the undertaking of HIA and promotes a structured, transparent and evidence-based approach to assessing health effects, health inequalities and the wider determinants of health. The Health assessment will have regard to these

Relevant Guidance	Relevance to assessment
	principles when identifying health impact pathways, engaging with stakeholders, evaluating potential health effects and developing appropriate mitigation and enhancement measures for the Proposed Development.
Guidance – National	
Planning Practice Guidance (PPG) for Healthy and Safe Communities (2022)	The PPG promotes the integration of health and wellbeing considerations within planning and decision-making, recognising the influence of the built and natural environment on health outcomes. The Health assessment will have regard to these principles by considering the potential effects of the Proposed Development on health determinants, including access to services and facilities, active travel, green infrastructure, community cohesion and health infrastructure, and the implications of these effects for population health and health inequalities.
ISEP Guide to: Effective Scoping of Human Health in Environmental Impact Assessment	This guidance provides industry best practice for scoping human health within EIA and promotes a proportionate approach focused on population health, health inequalities and the wider determinants of health. The Health assessment will have regard to this guidance in identifying relevant health determinants, sensitive populations, impact pathways and potential likely significant effects associated with the Proposed Development.
ISEP Guide to: Determining Significance For Human Health In Environmental Impact Assessment	This guidance provides a framework for determining the significance of health effects arising from development proposals within the Environmental Impact Assessment process. It supports a consistent and proportionate assessment of potential impacts on population health, health inequalities and the wider determinants of health. The Health assessment will apply the principles set out in this guidance when evaluating the significance of potential beneficial and adverse effects on the health and wellbeing of local communities.
Public Health England (PHE) Advice on the Content of	This guidance sets out PHE's expectations for the consideration of health within Environmental

Relevant Guidance	Relevance to assessment
Environmental Statements Accompanying an Application under the NSIP Regime (2021) (Published by PHE, now succeeded by the UK Health Security Agency (UKHSA) and the Office for Health Improvement and Disparities (OHID)).	Statements for NSIPs. The Health assessment will have regard to this guidance by considering potential effects on population health, health inequalities and vulnerable groups, and by integrating relevant findings from other technical assessments, including air quality, noise, transport, socio-economics and major accidents, where these may influence health and wellbeing.
PHE Health Impact Assessment in Spatial Planning (2020)	This guidance promotes the consideration of health and wellbeing within planning and development by focusing on the wider determinants of health, health inequalities and vulnerable populations. The Health assessment will have regard to these principles when identifying and assessing potential effects on physical and mental health, wellbeing and health inequalities arising from the Proposed Development.
Wales Health Impact Assessment Support Unit (WHIASU) HIA: Population Groups and Wider Determinants of Health and Well-being	This resource provides a structured framework for identifying population groups that may be disproportionately affected by the Proposed Development, as well as the wider determinants of health and wellbeing that can influence health outcomes and inequalities. It is widely regarded as a good practice document used by health assessment practitioners nationally across the UK. The Health assessment will have regard to this framework when identifying sensitive populations, determining pathways through which the Proposed Development may affect health and wellbeing, and assessing the distribution of effects across different population groups, particularly those who may be more vulnerable to adverse impacts or less able to benefit from positive outcomes.
Guidance – Regional	
No regional guidance has been considered relevant to this Health assessment.	
Guidance – Local	
No regional guidance further than that outlined in **Appendix 14.1** has been considered relevant to this Health assessment.	

14.2.1.3 to **Table 14-3**. These include national legislation, planning policy, aviation and health strategies, environmental policy, and professional guidance relevant to the assessment of health effects. These documents have been used to inform the health issues and population groups considered within this chapter. Further information on the wider legislative and policy framework relevant to the EIA is provided in **Section 1.9**, which should be read in conjunction with this chapter.

Table 14-1: Policy relevant to the Health Assessment

Relevant Policy	Relevance to assessment
Policy – International	
No international policies have been considered relevant to this Health assessment.	
Policy – National	
Draft Heathrow Expansion National Policy Statement (HENPS) (June 2026)[2]	The draft HENPS sets out the Government's proposed policy framework for Heathrow expansion and the matters to be considered in any future Development Consent Order (DCO) application. The draft HENPS places particular emphasis on addressing the potential effects of expansion on communities and the environment, including matters such as air quality, noise, surface access, community impacts and mitigation. These topics represent important determinants of health and will therefore be considered within the Health assessment where relevant to the Proposed Development.
Draft Heathrow Expansion National Policy Statement (HENPS) Health Impact Analysis (HIAn) (June 2026)[3]	The draft HENPS HIAn provides a systematic assessment of the potential health effects associated with Heathrow expansion, including effects on vulnerable populations and health inequalities. The HIAn identifies a range of pathways through which expansion could influence health and wellbeing, including employment, education and skills, housing, noise, air quality, community

[2] Department for Transport 2026. *Proposed Draft Revision to the Airports National Policy Statement – to be Known as the Heathrow Expansion National Policy Statement (HENPS).* Published June 2026. Available at: Draft Heathrow Expansion National Policy Statement (accessed on: 13/07/2026).
[3] Department for Transport 2026. *Health Impact Analysis (HIAn) for the Draft Heathrow Expansion National Policy Statement.* Published June 2026. Available at: Draft Heathrow Expansion National Policy Statement Health Impact Analysis (accessed on: 13/07/2026).

Relevant Policy	Relevance to assessment
	cohesion and access to infrastructure and services. The Health assessment will have regard to the findings of the HIAn when identifying relevant health determinants, population groups and potential pathways to effect associated with the Proposed Development.
Airports National Policy Statement (ANPS)[4]	The ANPS sets out the Government's policy on the need for additional airport capacity in the South East of England and provides the primary basis for decision-making on DCO applications for a Northwest Runway at Heathrow Airport. It establishes the planning framework and identifies the key considerations that must be addressed as part of any future airport expansion proposals. The ANPS places significant emphasis on the assessment and mitigation of environmental and community effects associated with airport development, including air quality, noise, surface access, climate change, community impacts, biodiversity, and health. These factors represent important determinants of health and will therefore be considered within the Health assessment, where relevant to the Proposed Development.
Fit For The Future: 10 Year Health Plan for England (July 2025)[5]	This Plan establishes a national framework for improving population health, reducing health inequalities and supporting a greater focus on prevention and community wellbeing. The Health assessment will have regard to these objectives by considered the potential effects of the Proposed Development on health determinants, vulnerable populations and health inequalities, and by identifying opportunities to promote positive health outcomes where appropriate.

[4] Department for Transport 2018. *Airports National Policy Statement: new runway capacity and infrastructure at airports in the South East of England*. Published June 2018. Available at: https://assets.publishing.service.gov.uk/media/5e2054fc40f0b65dbed71467/airports-nps-new-runway-capacity-and-infrastructure-at-airports-in-the-south-east-of-england-web-version.pdf (accessed on 23/07/2026).

[5] Department of Health and Social Care 2025. *Fit for the Future: 10 Year Health Plan for England.* Published July 2025. Available at: 10 Year Health Plan for England: Fit for the Future (accessed on: 13/07/2026).

Relevant Policy	Relevance to assessment
The Environmental Improvement Plan (2023)[6]	This Plan establishes objectives for improving environmental quality and enhancing the natural environment for the benefit of current and future generations. The Health assessment will have regard to these objectives by considering the potential effects of the Proposed Development on environmental determinants of health, including air quality, green infrastructure, biodiversity and access to natural environments, and the implications of these factors for population health and wellbeing.
Overarching Aviation Noise Policy (OANP) (2023)[7]	The OANP establishes the Government's objective to limit and, where possible, reduce the adverse effects of aviation noise on health and quality of life. The Health assessment will have regard to these objectives by considering the potential effects of the Proposed Development on noise exposure, including potential implications for wellbeing, sleep disturbance, community amenity and vulnerable populations.
Air Quality Strategy (2023)[8]	This Strategy for England provides a framework for improving air quality and achieving national air quality objectives, including reducing exposure to fine particulate matter ($PM_{2.5}$) and other pollutants harmful to human health. The Health assessment will have regard to these objectives by considering the potential effects of the Proposed Development on air quality, health inequalities and population exposure to pollutants, and the implications of these effects for human health and wellbeing

[6] Department for Environment, Food and Rural Affairs 2023. *Environmental Improvement Plan 2023: First Revision of the 25 Year Environment Plan.* Presented to Parliament pursuant to Section 10(6) of the Environment Act 2021. Published 31 January 2023. Available at: Environmental Improvement Plan 2023 (accessed on: 13/07/2026).
[7] Department for Transport 2023. *Overarching Aviation Noise Policy (OANP).* Published 27 March 2023. Available at: Aviation Noise Policy Statement (accessed on: 13/07/2026).
[8] Department for Environment, Food and Rural Affairs 2023. *The Air Quality Strategy for England: Framework for Local Authority Delivery.* Published 28 April 2023. Updated 25 August 2023. Available at: The Air Quality Strategy for England (accessed on: 13/07/2026).

Relevant Policy	Relevance to assessment
The National Planning Policy Framework (NPPF) (August 2026)[9]	The NPPF, published in August 2026, seeks to support strong, vibrant and healthy communities and to protect health through climate adaptation, environmental protection and the minimisation of pollution. Chapter 16, Promoting Healthy Communities, provides the principal policy context for the Health Assessment, including through policies supporting active travel, recreational opportunities, community facilities and public service infrastructure, open space, social interaction and measures to reduce health inequalities. In addition, Policy P3(1) and P3(2) within Chapter 17, Pollution, public protection and security, require planning decisions to ensure that development is appropriate for its location by taking into account the potential effects of pollution and other public protection risks on health, living conditions and the natural environment, and to prevent unacceptable risks to public health from new or existing sources of pollution. These policies provide an important framework for considering the health implications of environmental exposures, including air quality, noise, contaminated land, artificial light and other factors that may influence wellbeing. Health and wellbeing are also supported through wider policies relating to climate resilience, inclusive design, sustainable transport, pollution, green infrastructure, flood risk, employment and access to services. The Health Assessment will have regard to these policies by considering the potential effects of the Proposed Development through defined health pathways, including air quality, noise, transport and accessibility, road safety and severance, employment and income, climate-related risks, open space and access to healthcare, education and community facilities. Where appropriate, the assessment will draw on the findings of other technical assessments and consider whether beneficial or adverse effects may be distributed unevenly between population groups,

[9] Ministry of Housing, Communities and Local Government 2026. *National Planning Policy Framework.* Updated August 2026. Available at: National_Planning_Policy_Framework.pdf (accessed on: 28/08/2026).

Relevant Policy	Relevance to assessment
	including groups that may experience greater susceptibility or disadvantage.
Flightpath to the Future (2022)[10]	This establishes the Government's strategic priorities for the future development of the aviation sector, including sustainable growth, innovation, environmental improvement and the delivery of benefits for communities. The Health assessment will have regard to these objectives by considering the potential implications of the Proposed Development for local communities, including effects associated with aviation noise, air quality, transport, employment and other determinants of health and wellbeing.
Jet Zero Strategy (2022)[11]	This Strategy establishes the Government's approach to decarbonising the aviation sector and achieving net zero aviation emissions by 2050. The Health assessment will have regard to these objectives by considering the potential effects of the Proposed Development on environmental determinants of health, including air quality and climate change, and by recognising the importance of sustainable aviation growth that seeks to minimise adverse effects on communities and human health.
Policy – Regional	
The London Plan (2021)[12]	The London Plan promotes a holistic approach to health and wellbeing through 'Policy GG3 Creating a Healthy City', which seeks to improve health outcomes, reduce health inequalities and ensure that the health implications of development proposals are appropriately considered. The Health assessment will have regard to these objectives by assessing the potential effects of the Proposed Development on physical and mental health, wellbeing and health inequalities, including impacts

[10] Department for Transport 2022. *Flightpath to the Future: A Strategic Framework for the Aviation Sector.* Published 26 May 2022. Available at: Flightpath to the Future: A Strategic Framework for the Aviation Sector (accessed on: 13/07/2026).
[11] Department for Transport 2022. *Jet Zero Strategy: Delivering Net Zero Aviation by 2050.* Published July 2022. Available at: Jet Zero Strategy: Delivering Net Zero Aviation by 2050 (accessed on: 13/07/2026).
[12] Greater London Authority 2021. *The London Plan: The Spatial Development Strategy for Greater London.* Published March 2021. Available at: The London Plan 2021 (accessed on: 13/07/2026).

Relevant Policy	Relevance to assessment
	on the wider determinants of health. The assessment will also consider relevant London Plan policies relating to air quality, noise, skills and employment opportunities, community cohesion, transport and aviation, where these influence population health and wellbeing.
Draft London Plan (2026)[13]	The Draft London Plan (2026) continues to promote a healthy, sustainable and inclusive approach to growth across London and places particular emphasis on ensuring that major infrastructure proposals support Good Growth objectives. Of particular relevance to the Proposed Development is Policy GLE9: Aviation, which recognises the strategic economic role of aviation while requiring the environmental and social effects of airport development to be appropriately managed, including impacts relating to air quality, noise, transport connectivity, climate change and local communities. The policy also highlights the importance of sustainable surface access and ensuring that aviation growth does not undermine wider spatial, environmental and public health objectives. The Health assessment will have regard to these principles by considering the potential health and wellbeing implications of the Proposed Development, including effects associated with aviation noise, air quality, transport and accessibility, employment and skills opportunities, community cohesion and health inequalities. The assessment will also consider how mitigation and enhancement measures can support positive health outcomes and help ensure that the benefits of airport expansion are realised while adverse effects on local communities are minimised.
Policy – Local	
Relevant local planning and health policy documents for the relevant 11 Local Planning Authorities will be reviewed, including Local Plans, JSNAs, Joint Health and Wellbeing	

[13] Greater London Authority (2026). *Draft London Plan: The Spatial Development Strategy for Greater London.* Published July 2026. Available at: Draft London Plan | London City Hall (accessed on: 07/09/2026).

Relevant Policy	Relevance to assessment
Strategies (JHWSs) and Annual Public Health Reports. These documents will be used to inform the health baseline, identify local health priorities, vulnerable population groups and existing health inequalities, and provide context for the assessment of potential health effects associated with the Proposed Development. The relevant local planning and health policy documents are provided in **Appendix 14.1**.	

Table 14-2: Legislation relevant to the Health Assessment

Relevant Legislation	Relevance to assessment
Legislation– International	
No international legislation has been considered relevant to this Health assessment.	
Legislation – National	
The Health and Social Care Act (2022)[14]	This Act promotes a more integrated approach to health and social care provision and places increased emphasis on improving population health and reducing health inequalities. The Health assessment will have regard to these objectives when considering the potential effects of the Proposed Development on local communities, vulnerable populations and health-related infrastructure.
The Equality Act 2010[15]	This Act seeks to prevent discrimination and advance equality of opportunity for individuals with protected characteristics. The Health assessment will have regard to these objectives by considering the potential for disproportionate effects on protected and vulnerable groups, and by assessing how the Proposed Development may affect health inequalities and access to health-supporting infrastructure, services and opportunities. A separate Equality Impact Assessment (EqIA) will also be produced.

[14] HM Government 2022. *Health and Care Act 2022* (c. 31). Published 28 April 2022. Available at: Health and Care Act 2022 (accessed on: 13/07/2026).
[15] HM Government 2010. *Equality Act 2010* (c. 15). London: The Stationery Office. Available at: Equality Act 2010 (accessed on: 13/07/2026).

Relevant Legislation	Relevance to assessment
The Planning Act 2008[16]	This Act provides the statutory framework for the DCO process for Nationally Significant Infrastructure Projects (NSIPs). The Health assessment will be undertaken in accordance with this framework and will identify and assess the likely significant effects of the Proposed Development on the health and wellbeing of local communities, including potential effects on health inequalities and relevant determinants of health.
The Local Government and Public Involvement in Health Act 2007[17]	This Act promotes partnership working to improve health and wellbeing at the local level and provides the basis for the preparation of Joint Strategic Needs Assessments (JSNAs) and local health and wellbeing strategies. These documents will be used to inform the Health assessment by identifying local health priorities, vulnerable populations and existing health inequalities relevant to the Proposed Development.
Environment Act (2021)[18]	This Act establishes legally binding targets to improve environmental quality and supports the protection and enhancement of the natural environment. The Health assessment will have regard to these objectives by considering the potential effects of the Proposed Development on environmental determinants of health, including air quality, biodiversity, green infrastructure and access to natural environments, and the implications of these factors for population health and wellbeing.
The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023[19]	The Regulations establish statutory targets to reduce ambient concentrations of $PM_{2.5}$ and population exposure to fine particulate matter in England. The Health assessment will have regard to these objectives by considering the potential

[16] UK Government 2008. *Planning Act 2008* (c. 29). Available at: Planning Act 2008 (accessed on: 13/07/2026).
[17] UK Government 2007. *Local Government and Public Involvement in Health Act 2007* (c. 28). Available at: Local Government and Public Involvement in Health Act 2007 (accessed on: 13/07/2026).
[18] UK Government 2021. *Environment Act 2021* (c. 30). Available at: Environment Act 2021 (accessed on: 13/07/2026).
[19] UK Government 2023. *The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023* (SI 2023 No. 96). Made 30 January 2023. Available at: The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 (accessed on: 13/07/2026).

Relevant Legislation	Relevance to assessment
	effects of the Proposed Development on air quality, exposure to $PM_{2.5}$ and associated implications for population health, health inequalities and vulnerable communities.
The Control of Major Accident Hazards (COMAH) Regulations 2015[20]	These Regulations seek to prevent major accidents involving hazardous substances and minimise the consequences of any such events for human health and the environment. The Health assessment will be informed by the findings of the Major Accidents and Disasters assessment (**Chapter 19**), which considers potential major accident risks, emergency response arrangements and mitigation measures relevant to the Proposed Development and surrounding communities.
Legislation – Regional	
No regional legislation has been considered relevant to this Health assessment.	
Legislation – Local	
No local legislation has been considered relevant to this Health assessment.	

Table 14-3: Guidance relevant to the Health assessment

Relevant Guidance	Relevance to assessment
Guidance– International	
Institute of Public Health (IPH) Health Impact Assessment Guidance: A Manual and Case Study (2021)[21]	This guidance sets out best practice for undertaking Health Impact Assessment and provides tools and methodologies for identifying, assessing and managing the health implications of policies, plans and projects. The Health assessment will have regard to the principles of this guidance when considering the potential effects of the Proposed Development on physical, mental and social wellbeing, health inequalities and the wider determinants of health, and in identifying measures

[20] UK Government 2015. *The Control of Major Accident Hazards Regulations 2015* (SI 2015 No. 483). Available at: The Control of Major Accident Hazards Regulations 2015 (accessed on: 13/07/2026).
[21] Institute of Public Health in Ireland (IPH) 2021. *Health Impact Assessment Guidance: A Manual and Case Study. Standalone Health Impact Assessment and Health in Environmental Assessment.* Published 2021. Available at: Health Impact Assessment Guidance (accessed on: 13/07/2026).

Relevant Guidance	Relevance to assessment
	to enhance beneficial outcomes and mitigate adverse effects.
International Association for Impact Assessment (IAIA) and European Public Health Association (EPHA) Human Health: Ensuring a High Level of Protection (2020)[22]	This guidance sets out international good practice for addressing human health within Environmental Impact Assessment and promotes consideration of population health, health inequalities and the wider determinants of health throughout the EIA process. The Health assessment will have regard to these principles when identifying, assessing and mitigating potential health effects associated with the Proposed Development.
World Health Organization (WHO), Compendium of WHO and Other UN Guidance on Health and Environment, 2024 update[23]	The Compendium provides an international evidence base on the relationship between environmental conditions and human health and brings together WHO and UN guidance on reducing environmental health risks and promoting healthier communities. The Health assessment will have regard to this evidence when identifying and assessing potential effects associated with key health determinants, including air quality, climate change, noise, transport, access to healthy environments and health inequalities.
IAIA Health Impact Assessment, International Best Practice Principles (2021)[24]	This guidance provides international best practice for the undertaking of HIA and promotes a structured, transparent and evidence-based approach to assessing health effects, health inequalities and the wider determinants of health. The Health assessment will have regard to these principles when identifying health impact pathways, engaging with stakeholders, evaluating potential health effects and developing appropriate mitigation and enhancement measures for the Proposed Development.

[22] International Association for Impact Assessment (IAIA) and European Public Health Association (EUPHA) 2020. *Human Health: Ensuring a High Level of Protection. A Reference Paper on Addressing Human Health in Environmental Impact Assessment.* Published December 2020. Available at: Human Health: Ensuring a High Level of Protection (accessed on: 13/07/2026).
[23] World Health Organization (WHO) 2024. *Compendium of WHO and Other UN Guidance on Health and Environment, 2024 Update.* Published 3 July 2024. Available at: Compendium of WHO and Other UN Guidance on Health and Environment, 2024 Update (accessed on: 13/07/2026).
[24] International Association for Impact Assessment (IAIA) 2021. *Health Impact Assessment International Best Practice Principles.* Special Publication Series No. 5. Published April 2021. Available at: Health Impact Assessment International Best Practice Principles (accessed on: 13/07/2026).

Relevant Guidance	Relevance to assessment
Guidance – National	
Planning Practice Guidance (PPG) for Healthy and Safe Communities (2022)[25]	The PPG promotes the integration of health and wellbeing considerations within planning and decision-making, recognising the influence of the built and natural environment on health outcomes. The Health assessment will have regard to these principles by considering the potential effects of the Proposed Development on health determinants, including access to services and facilities, active travel, green infrastructure, community cohesion and health infrastructure, and the implications of these effects for population health and health inequalities.
ISEP Guide to: Effective Scoping of Human Health in Environmental Impact Assessment[26]	This guidance provides industry best practice for scoping human health within EIA and promotes a proportionate approach focused on population health, health inequalities and the wider determinants of health. The Health assessment will have regard to this guidance in identifying relevant health determinants, sensitive populations, impact pathways and potential likely significant effects associated with the Proposed Development.
ISEP Guide to: Determining Significance For Human Health In Environmental Impact Assessment[27]	This guidance provides a framework for determining the significance of health effects arising from development proposals within the Environmental Impact Assessment process. It supports a consistent and proportionate assessment of potential impacts on population health, health inequalities and the wider determinants of health. The Health assessment will apply the principles set out in this guidance when evaluating the significance of potential beneficial and adverse

[25] Department for Levelling Up, Housing and Communities 2022. *Planning Practice Guidance (PPG): Healthy and Safe Communities.* Updated 7 August 2022. Available at: Healthy and Safe Communities (accessed on: 13/07/2026).
[26] Institute of Sustainability and Environmental Professionals (ISEP) 2022. *Guide to: Effective Scoping of Human Health in Environmental Impact Assessment.* Published November 2022. Available at: More Detail in Health Impact Assessment Guidance (accessed on: 13/07/2026).
[27] Institute of Sustainability and Environmental Professionals (ISEP) 2022. *Guide to: Determining Significance for Human Health in Environmental Impact Assessment.* Published November 2022. Available at: More Detail in Health Impact Assessment Guidance (accessed on: 13/07/2026).

Relevant Guidance	Relevance to assessment
	effects on the health and wellbeing of local communities.
Public Health England (PHE) Advice on the Content of Environmental Statements Accompanying an Application under the NSIP Regime (2021)[28] (Published by PHE, now succeeded by the UK Health Security Agency (UKHSA) and the Office for Health Improvement and Disparities (OHID)).	This guidance sets out PHE's expectations for the consideration of health within Environmental Statements for NSIPs. The Health assessment will have regard to this guidance by considering potential effects on population health, health inequalities and vulnerable groups, and by integrating relevant findings from other technical assessments, including air quality, noise, transport, socio-economics and major accidents, where these may influence health and wellbeing.
PHE Health Impact Assessment in Spatial Planning (2020)[29]	This guidance promotes the consideration of health and wellbeing within planning and development by focusing on the wider determinants of health, health inequalities and vulnerable populations. The Health assessment will have regard to these principles when identifying and assessing potential effects on physical and mental health, wellbeing and health inequalities arising from the Proposed Development.
Wales Health Impact Assessment Support Unit (WHIASU) HIA: Population Groups and Wider Determinants of Health and Well-being[30]	This resource provides a structured framework for identifying population groups that may be disproportionately affected by the Proposed Development, as well as the wider determinants of health and wellbeing that can influence health outcomes and inequalities. It is widely regarded as a good practice document used by health assessment practitioners nationally across the UK. The Health assessment will have regard to this framework when identifying sensitive populations, determining pathways through which the Proposed Development may affect health and wellbeing, and

[28] Public Health England (PHE) 2021. *Advice on the Content of Environmental Statements Accompanying an Application under the Nationally Significant Infrastructure Planning Regime.* Published March 2021. Available at: PHE Advice on the Content of Environmental Statements Accompanying an Application under the NSIP Regime (accessed on: 13/07/2026).
[29] Public Health England (PHE) 2020. *Health Impact Assessment in Spatial Planning: A Guide for Local Authority Public Health and Planning Teams.* Published October 2020. Available at: Health Impact Assessment in Spatial Planning (accessed on: 13/07/2026).
[30] WHIASU 2026. *Health Impact Assessment (HIA): Population Groups and Wider Determinants of Health and Well-being.* Published February 2026. Available at: HIA Population Groups and Wider Determinants of Health and Well-being (accessed on: 28/09/2026).

Relevant Guidance	Relevance to assessment
	assessing the distribution of effects across different population groups, particularly those who may be more vulnerable to adverse impacts or less able to benefit from positive outcomes.
Guidance – Regional	
No regional guidance has been considered relevant to this Health assessment.	
Guidance – Local	
No regional guidance further than that outlined in **Appendix 14.1** has been considered relevant to this Health assessment.	

14.3 Stakeholder Engagement

14.3.1.1 Stakeholder engagement will inform the scope and development of the Health assessment. Input from public health, healthcare and other relevant bodies will be used alongside community feedback to identify local health priorities, population vulnerabilities, concerns about the Proposed Development and opportunities for mitigation or enhancement.

14.3.1.2 No engagement specific to the Health assessment has been undertaken for the current EIA at this stage. The scope and methodology presented in this chapter have been developed based on professional judgement, relevant legislation, policy and guidance, and the requirements of the EIA Regulations. In addition, the health-related comments and recommendations contained within the 2019 and 2025 Heathrow Airport Limited (HAL) EIA Scoping Opinions have been reviewed to inform the assessment context. While these Scoping Opinions relate to a separate development and are not directly affiliated with the Proposed Development, they provide relevant background on health considerations with Heathrow-related schemes. The review has informed the identification of key health determinants, vulnerable population groups, assessment study areas, healthcare services, mitigation, monitoring and the need for clear integration with other EIA topics.

14.3.1.3 This Scoping Report provides an initial opportunity for statutory consultees and other stakeholders to comment on the proposed scope. Following scoping, targeted engagement will be undertaken to refine the assessment approach, confirm relevant baseline evidence and health priorities, and inform the development of mitigation and monitoring. The outcomes of relevant engagement will be reported in the ES. Following scoping, targeted engagement will be undertaken with relevant stakeholders, including:

- The UK Health Security Agency and Office for Health Improvement and Disparities (OHID);
- Directors of Public Health, public health teams, environmental health teams and Health and Wellbeing Boards for relevant local authorities;
- NHS England and relevant Integrated Care Boards (ICB), NHS trusts, mental health trusts, ambulance services and Healthwatch;
- Heathrow Travel Care, Heathrow Police Service, Heathrow Chaplaincy and the Port Health Authority;
- The Council for the Independent Scrutiny of Heathrow Airport (CISHA);
- The Heathrow Strategic Planning Group (HSPG);
- Relevant transport, environmental and emergency planning bodies, including Transport for London, the Greater London Authority (GLA) and the Environment Agency; and
- Affected communities, community organisations, and owners and operators of facilities directly affected by the Proposed Development.

14.3.1.4 Engagement will be used to refine the assessment scope, baseline evidence, local health priorities, population sensitivities and the approach to mitigation and monitoring. The outcomes of relevant engagement will be reported in the ES.

14.3.1.5 The Health assessment will also draw on engagement undertaken through assessments reported in Chapter 5: Air Quality and Odour, Chapter 9: Climate Change, Chapter 10: Community, Chapter 11: Economics and Employment, Chapter 12: Recreation, Chapter 19: Major Accidents and Disasters, Chapter 20: Noise and Vibration, Chapter 21: Traffic and Transport, and Chapter 22: Water Environment. Relevant findings will be shared and cross-referenced to ensure that health considerations are addressed consistently without duplicating engagement across the EIA.

14.4 Study Area

14.4.1.1 This section describes the study areas proposed for the assessment of health effects for the Scoping stage. The approach to defining these study areas is informed by the ISEP guidance 'Effective Scoping of Human Health in Environmental Impact Assessment[20]', which promotes a proportionate and evidence-led approach to establishing assessment boundaries.

14.4.1.2 Health assessment study areas have been developed to reflect the likely extent of the Proposed Development's influence on health determinants and population groups. These study areas provide the framework for understanding the distribution of health effects and identifying communities that may be more susceptible to change.

14.4.1.3 The study areas have been established with reference to the characteristics and anticipated impacts of the Proposed Development. They have also been informed by the geographic extents adopted across related technical assessments. As the design of the Proposed Development progresses, these study areas may be

refined where appropriate to reflect the findings of baseline analysis and emerging evidence. Technical assessments including traffic and transport, air quality, noise and vibration, landscape and visual effects, climate change and socio-economics will help inform the assessment of potential health outcomes and population-level effects.

14.4.1.4 Health assessments draw upon the findings of other environmental topics to understand how changes in environmental, social and economic conditions may affect health and wellbeing. Consequently, the assessment will consider the study areas, zones of influence and affected receptors identified within relevant technical disciplines. This integrated approach enables pathways between environmental effects and health outcomes to be understood. However, because some health determinants and outcomes extend beyond the geographic boundaries used in individual technical assessments, separate health study areas are also defined to ensure the assessment captures the relevant populations.

14.4.1.5 In accordance with ISEP guidance[20], the health study areas are intended primarily to support the characterisation of population sensitivity and vulnerability rather than to define an absolute limit to where health effects may occur. This recognises that some health outcomes, particularly those associated with perceptions, stress, community identity and wellbeing, may not be confined to administrative or physical boundaries. The study areas therefore represent the locations where the majority of population-level effects are anticipated to arise and where significant effects, if present, would be most evident.

14.4.1.6 Different health determinants operate at different spatial scales. To reflect this, a series of study areas will be used in the assessment, alongside those adopted by relevant technical disciplines. These study areas enable consideration of both localised and wider-reaching health effects and comprise:

- **Site-Specific Health Study Area:** relates to the communities most likely to experience localised health effects as a result of the Proposed Development. This captures population groups closest to the works and those most likely to be affected by direct land take, construction activity, environmental disturbance, access disruption, severance or changes to local facilities and routes. This is presented in **Figure 14.1**. This study area aligns directly with the Inner Study Area (ISA) presented in **Chapter 10: Community**, **Chapter 11: Economics and Employment** and **Chapter 12: Recreation**.
- **Local Health Study Area:** relates to the local authority-level geography within which wider community health effects and population sensitivities will be considered. It captures the areas most likely to be affected by the Proposed Development, while also providing sufficient geographic coverage to consider cumulative effects with other developments, where relevant. This is presented in **Figure 14.2**. This study area aligns directly with the Core Study Area (CSA) presented in **Chapter 10: Community**, **Chapter 11: Economics and Employment** and **Chapter 12: Recreation**.
- **Regional Health Study Area:** relates to the wider regional area within which broader economic, labour market, transport, airport-user and strategic

connectivity effects may influence population health. This is presented in **Figure 14.3**.

- **National Health Study Area:** relates to the national geography for strategic health determinants operating beyond the regional level, particularly those linked to national economic effects, strategic connectivity, climate change and national policy considerations.
- **Additional Study Areas:** Bespoke study areas used where a particular health determinant or pathway does not align neatly with the inner, local, regional or national boundaries. These should be used proportionately and only where they provide a more meaningful basis for assessment.

Rationale for Refining the Health Assessment Areas

14.4.1.7 The scoping exercise has identified a series of Community Areas which together comprise the Site-Specific Health Study Area. The list of Community Areas is presented in **Table 10-5** of **Chapter 10: Community**. A proportionate approach to identifying these areas has been taken in relation to the evolving Scoping Boundary. As scheme details and the nature of works are better understood, the boundary of the Proposed Development could be refined. Accordingly, those Community Areas under consideration may change, either through being omitted in later assessment, or through additional areas being scoped in to the assessment. Any change to the extent of the Community Areas would, in turn, affect the definition of the Site-Specific Health Study Area.

14.4.1.8 The rationale for including/omitting Community Areas will take into account the following principles:

- Whether there is a clear and credible source-pathway-receptor relationship with the potential to result in a likely significant population health effect, based on the nature and location of works within the Scoping Boundary and subsequent boundary for the ES.
- Whether further stakeholder engagement identifies local health priorities, population vulnerabilities or potentially significant health effects in an area not currently included.
- Whether preliminary environmental, social or economic assessments identify likely significant effects in areas not currently included which are relevant to population health.
- Whether refinement of the Scoping Boundary, land requirements or construction programme means that assessment of a Community Area is no longer relevant because there is no credible pathway by which its population could be affected.
- Whether assessment of an area would be disproportionate because no likely significant population health effect would be expected, taking account of the anticipated magnitude of change, receptor sensitivity, existing health inequalities and the population's ability to adapt to or recover from change.
- Whether the underlying environmental, social or economic change is sufficiently assessed through another environmental topic. In such cases, the Health assessment will draw on and cross-refer to that assessment to consider

the implications for population health and vulnerable groups, while avoiding duplication.
- Whether cumulative or in-combination effects could arise where the same population or vulnerable group experiences repeated, concurrent or successive environmental, social or economic changes.
- Whether a determinant-specific study area, such as a noise contour, air quality modelling area, transport network, service catchment, labour market area or workforce accommodation area, provides a more appropriate basis for assessing the relevant health pathway.

14.5 Sources of Data used in Scoping

14.5.1 Baseline Sources

14.5.1.1 Baseline information has been compiled using a range of national, regional and local datasets to establish the demographic, socio-economic and health characteristics of the study area and to identify existing health needs, inequalities and sensitive population groups. The baseline has been informed by the most recent publicly available data, as shown below in **Table 14-4**.

Table 14-4: Data sources used for scoping

Source	Relevance to the assessment
NOMIS Census Data (2021)	Provides demographic and socio-economic baseline data to identify population characteristics and potential health sensitivities within the study area.
ONS Mid-Year Population Estimates	Provides the latest population estimates for the study area, supporting understanding of population size, trends and potential health service demand.
ONS Subnational Population Projections (2022-based)	Provides an indication of future population change, supporting understanding of potential future demand for housing, infrastructure, community facilities and health services.
English Indices of Deprivation Domain Data (2025)	Identifies areas and population groups experiencing relative deprivation, helping to understand existing inequalities and potential distribution of health effects.
OHID Fingertips Public Health Profiles (2026)	Provides baseline health indicators, including mortality, maternal and child health, and mental health outcomes, to identify existing health needs and inequalities.

Source	Relevance to the assessment
OHID Fingertips Mortality Profile (2026)	Provides information on mortality rates and causes of death, supporting understanding of population health outcomes.
OHID Fingertips Child and Maternal Health Profile (2026)	Provides information on child and maternal health outcomes, helping identify potential health needs of children and families.
OHID Fingertips Adult Mental Health and Wellbeing Profile (2026)	Provides data on mental health outcomes, wellbeing and service use, supporting identification of existing mental health needs and inequalities within the study area.
OHID Smoking Profile (2026)	Provides information on smoking prevalence and smoking-related health behaviours, helping to identify existing health risks and inequalities within the study area.
DESNZ Fuel Poverty Statistics (2025)	Provides information on levels of fuel poverty, helping to identify households that may be vulnerable to adverse health and wellbeing effects associated with energy affordability and housing conditions.
Department for Education NEET and Participation Statistics	Provides information on the proportion of young people not in education, employment or training (NEET), helping to identify socio-economic vulnerability and future life opportunities.
Sport England Active Lives Survey (2024/25)	Provides information on physical activity levels, sport participation and sedentary behaviour, supporting understanding of population health and wellbeing.

14.6 Baseline Conditions

14.6.1 Introduction

14.6.1.1 An overview of baseline conditions within the Site-Specific Health Study Area and Local Health Study Area is provided below.

14.6.1.2 The baseline characterises the population and communities within the study areas and identifies key factors relevant to human health.

14.6.1.3 Detailed baseline information is provided in **Appendix 14.2**. Selected baseline indicators are summarised below to provide context for the proposed Health assessment.

14.6.1.4 Figures showing the geographic distribution of wider determinants of public health are included as follows:

- **Figure 14.4**: Indices of Multiple Deprivation 2025 – Overall (Local Health Study Area)
- **Figure 14.5**: Indices of Multiple Deprivation 2025 – Overall
- **Figure 14.6**: Indices of Multiple Deprivation 2025 – Income Domain
- **Figure 14.7**: Indices of Multiple Deprivation 2025 – Employment Domain
- **Figure 14.8**: Indices of Multiple Deprivation 2025 – Education, Skills and Training Domain
- **Figure 14.9**: Indices of Multiple Deprivation 2025 – Health Deprivation and Disability Domain
- **Figure 14.10**: Indices of Multiple Deprivation 2025 – Crime Domain
- **Figure 14.11**: Indices of Multiple Deprivation 2025 – Barries to Housing and Services Domain
- **Figure 14.12**: Indices of Multiple Deprivation 2025 – Living Environment Domain
- **Figure 14.13**: Percentage of Population with Longterm Health Problems

14.6.2 Site-Specific Health Study Area

14.6.2.1 This section outlines the baseline conditions of the Site-Specific Health Study Area for key population characteristics relevant to human health, including age, sex, ethnicity, general health and disability. The baseline is based on the most recent available datasets at the time of assessment, including 2021 Census data and other published demographic and health datasets summarised in **Table 14-4**.

14.6.2.2 Key Community Area variations within the Site-Specific Health Study Area are also identified where notable differences from the Site-Specific Health Study Area profile are evident.

Population

14.6.2.3 The Site-Specific Health Study Area has a population of approximately 256,775 residents. Population density within the study area is 2,710 residents per km², which is lower than the Regional Health Study Area average (3,041 residents per km²) but substantially higher than the national average (433 residents per km²).

14.6.2.4 The population of the Site-Specific Health Study Area has increased by approximately 47,086 residents (25%) since 2011. This exceeds population growth recorded across the Regional Health Study Area (11%) and England (10%), indicating that the study area has experienced substantial population growth over this period.

14.6.2.5 The key Community Area variations are as follows:

- Sipson (42%), Cranford Cross (41%) and Feltham North (37%) have experienced substantially higher population growth than the Site-Specific Health Study Area average (24%).
- Longford has the highest population density within the Site-Specific Health Study Area (5,328 residents per km²), compared with the study area average of 2,891 residents per km².

Age

14.6.2.6 The Site-Specific Health Study Area has a relatively young age profile compared with England, with a higher proportion of working-age residents (67.9% compared with 63.0%) and a lower proportion of residents aged 65 years and over (11.6% compared with 18.4%). The proportion of children aged 0-15 years (20.5%) also exceeds both the combined regional (19.0%) and national (18.6%) averages.

14.6.2.7 The key Community Area variations are as follows:

- Longford has the highest proportion of working-age residents (77.7%) and one of the lowest proportions of residents aged 65 years and over (8.6%).
- Sipson and Cranford Cross also have relatively young population profiles, with 7.5% and 8.7% of residents aged 65 years and over, respectively.
- Stanwell Moor has the highest proportion of residents aged 65 years and over (16.4%), considerably exceeding the Site-Specific Health Study Area average.

Sex

14.6.2.8 The Site-Specific Study Area has a broadly balanced sex profile, with males accounting for 50.7% of the population and females accounting for 49.3%. This is broadly consistent with both the regional and national population.

14.6.2.9 The key Community Area variations are as follows:

- Longford differs notably from the wider study area, with males accounting for 62.5% of the population.
- All other Community Areas have relatively balanced sex distributions, generally ranging between 48% and 52% male residents.

Ethnicity

14.6.2.10 The ethnic composition of the Site-Specific Health Study Area differs from both the regional and national population profiles. White residents account for 45.6% of the population, compared with 70.1% across the combined Regional Health Study Area and 81.0% nationally. Conversely, residents identifying as Asian, Asian

British or Asian Welsh account for 38.0% of the population, substantially exceeding the regional (13.9%) and national (9.6%) averages.

14.6.2.11 The key Community Area variations are as follows:

- In Cranford (65.5%), Heston (59.9%) and Cranford Cross (59.7%), residents identifying as Asian, Asian British or Asian Welsh comprise a substantially larger proportion of the population than the Site-Specific Health Study Area average (38.0%).

General Health

14.6.2.12 The majority of residents within the Site-Specific Health Study Area report their health as very good or good (85.1%), broadly aligning with the regional average (84.7%) and exceeding the national average (82.2%). Residents reporting bad or very bad health account for 3.8% of the population, compared with 4.2% regionally and 5.2% nationally.

14.6.2.13 The key Community Area variations are as follows:

- Longford has a lower proportion of residents reporting very good or good health (80.0%) than the Site-Specific Health Study Area average (85.1%). In addition, 5.4% of residents report bad or very bad health, compared with 3.8% across the Site-Specific Health Study Area.
- Cranford Cross has a higher proportion of residents reporting very good or good health (88.3%) than the Site-Specific Health Study Area average (85.2%). Residents reporting bad or very bad health account for 2.7% of the population, compared with 3.8% across the Site-Specific Health Study Area.

Disability

14.6.2.14 Across the Site-Specific Health Study Area, 4.5% of residents are classified as disabled under the Equality Act and report that their day-to-day activities are limited a lot, whilst a further 6.0% are classified as disabled and report that their day-to-day activities are limited a little. Both proportions are lower than the regional (5.3% and 7.6%, respectively) and national (6.2% and 8.5%, respectively) averages.

14.6.2.15 The key Community Area variations are as follows:

- In Longford, 10.9% of residents are classified as disabled under the Equality Act and report that their day-to-day activities are limited a little, compared with 6.0% across the Site-Specific Health Study Area.
- Cranford Cross reports lower proportions of residents classified as disabled under the Equality Act whose day-to-day activities are limited a lot (2.9%) or limited a little (4.6%) than the Site-Specific Health Study Area averages (4.5% and 6.0%, respectively).

Deprivation

14.6.2.16 **Figures 14.4 to 14.12** present the distribution of deprivation across the Site-Specific Health Study Area using the Indices of Multiple Deprivation (IMD) 2025.

14.6.2.17 The overall IMD mapping indicates variation in deprivation across the Site-Specific Health Study Area. Areas associated with lower national rankings are generally concentrated within the central and eastern parts of the Site-Specific Health Study Area, whilst areas associated with higher national rankings are more prevalent within the western extent of the Site-Specific Health Study Area. Much of the Site-Specific Health Study Area falls within the middle ranking categories nationally.

14.6.2.18 A similar spatial pattern is evident across the Income, Employment, and Education, Skills and Training domains. Areas within the central and eastern parts of the Site-Specific Health Study Area are more frequently associated with lower national rankings across these domains, whilst areas within the western extent of the Site-Specific Health Study Area are more commonly associated with higher rankings.

14.6.2.19 The Health Deprivation and Disability domain indicates a greater concentration of areas within the middle and higher ranking categories nationally, with comparatively fewer areas falling within the lowest ranking categories. In contrast, the Crime domain identifies a number of areas within the eastern part of the Site-Specific Health Study Area that are associated with lower national rankings, whilst higher rankings are more prevalent towards the western extent.

14.6.2.20 The Living Environment and Barriers to Housing and Services domains display a broader distribution of rankings across the Site-Specific Health Study Area. Areas associated with lower national rankings are evident across both the eastern and western extents of the Site-Specific Health Study Area.

14.6.3 Local Health Study Area

14.6.3.1 This section outlines baseline conditions within the Local Health Study Area for key population, health and wellbeing characteristics relevant to human health.

14.6.3.2 It also provides an overview of health and wellbeing indicators that are only available at local authority level. Key local authority variations are identified where notable differences from the overall Local Health Study Area profile are evident.

Population

14.6.3.3 The Local Health Study Area comprises a population of 2,794,119 across 11 local authorities. Population density varies considerably across the study area, ranging from 355 people per km² in Buckinghamshire to 9,590 people per km² in Wandsworth.

14.6.3.4 All local authorities within the Local Health Study Area have experienced population growth since 2011. Growth has ranged from 5% in Richmond upon Thames to 19% in Hillingdon and Slough.

14.6.3.5 The key Local Authority variations are as follows:

- Buckinghamshire has the largest resident population (578,772), whilst Runnymede has the smallest (92,118).
- Wandsworth (9,590 people per km²), Ealing (6,605 people per km²), Hounslow (5,150 people per km²) and Slough (4,873 people per km²) have notably higher population densities than other authorities within the Local Health Study Area.
- Buckinghamshire (355 people per km²), Windsor and Maidenhead (776 people per km²) and Runnymede (1,125 people per km²) have substantially lower population densities.
- Hillingdon and Slough experienced the highest population growth between 2011 and the latest population estimates (19%), whilst Richmond upon Thames experienced the lowest growth (5%).

Language

14.6.3.6 English is reported as the main language by the majority of residents across all authorities within the Local Health Study Area. However, language profiles vary considerably between authorities. Lower proportions of residents report English as their main language in Ealing (69.7%), Hounslow (72.2%) and Slough (72.9%) compared with the South East (93.1%) and England (91.0%).

Health Outcomes

14.6.3.7 **Table 14-5** provides a high level overview of health outcomes and wellbeing indicators across the Local Health Study Area. Overall, health outcomes are positive when compared with regional and national comparator areas. Average life expectancy exceeds the London, South East and England averages for both males and females, whilst under-75 mortality rates from all causes, cardiovascular disease and respiratory disease are lower than the corresponding regional and national rates.

14.6.3.8 Indicators relating to disease prevalence and health behaviours are also generally positive. Smoking prevalence is lower than all comparator areas, physical activity levels exceed the England average, and the prevalence of adults who are overweight or obese is lower than both the South East and England averages. Similarly, rates of Year 6 obesity and children living in low-income families are lower than the corresponding England averages.

Table 14-5: Local Health Study Area - Health Outcomes

Measure		Local Health Study Area	London	South East	England
Life Expectancy (1 year range)					
Male		81.3	81.1	80.9	80.0
Female		85.3	85.1	84.7	83.8
Mortality					
Under 75 Mortality Rate (1 year range) (per 100,00 population	All causes	271.0	282.1	287.0	321.0
	Cardiovascular	58.1	69.4	59.1	71.5
	Respiratory Disease	25.1	25.8	25.2	31.5
Disease and Poor Health					
Estimated Diabetes Diagnosis Rate (%)		73.7%	71.4%	75.2%	78.0%
Asthma QOF Prevalence (%)		5.3%	4.7%	6.5%	6.6%
Adult Health and Wellbeing					
Smoking Prevalence in Adults (%)		8.4%	10.2%	9.4%	10.4%
Physically Active Adults (%)		67.9%	65.9%	67.4%	64.6%
Overweight or Obese Adults (%)		58.8%	57.4%	63.0%	64.6%
Children and Young People					
Year 6 Obesity (%)		18.6%	23.2%	19.2%	22.2%
Children in Low Income Families (%)		11.9%	15.6%	13.0%	19.8%
Older People					

Measure	Local Health Study Area	London	South East	England
Hip Fractures in People Aged 65+*	481	468	518	563
Key				
	Lower than national average (>5% below)			
	Similar to national average (within ±5%)			
	Higher than national average (>5% above)			

*Values presented are the indicator values reported by OHID Fingertips. For some indicators these represent directly standardised rates rather than the number of cases.

14.6.3.9 Whilst the overall health profile of the Local Health Study Area is positive, variation exists between the authorities. Notable variations include:

- Slough records the lowest life expectancy within the Local Health Study Area, at 78.5 years for males and 82.9 years for females, and the highest rate of under-75 mortality from all causes (391.7 per 100,000 population), compared with a Local Health Study Area average of 271.0 per 100,000 population.
- Diabetes diagnosis rates exceed the England average (78.0%) in Slough (88.4%), Hounslow (84.1%), Spelthorne (83.2%) and Hillingdon (82.6%).
- Adult overweight and obesity prevalence is highest in Spelthorne (68.3%) and Slough (65.3%), compared with a Local Health Study Area average of 58.8%.
- Year 6 obesity prevalence is highest in Slough (25.4%), Ealing (23.9%) and Hounslow (23.6%), exceeding both the Local Health Study Area average (18.6%) and the England average (22.2%).
- Physical activity levels are highest in Wandsworth (76.3%), Richmond upon Thames (75.3%) and Elmbridge (75.1%), compared with a Local Health Study Area average of 67.9% and England average of 64.6%.

14.6.4 Wider Determinants of Health

14.6.4.1 The health of populations and communities is influenced by a range of wider determinants of health, including environmental, social and economic factors. These determinants can affect physical health, mental wellbeing and health inequalities through a variety of pathways. Key wider determinants relevant to the Proposed Development include air quality, noise, landscape and townscape, access to employment, housing, community infrastructure and transport.

14.6.4.2 This section provides a high-level overview of existing baseline conditions for those determinants where sufficient information is currently available. It draws on **Appendix 14.2: Health Baseline**, the draft HENPS Health Impact Analysis and the baseline findings of the relevant technical chapters in this Scoping Report. As the technical chapters apply their own topic-specific study areas, their findings are used to provide context for the populations considered by the Health assessment and should not be interpreted as data calculated specifically for the Site-Specific Health Study Area or Local Health Study Area. This reflects the approach in the draft Health chapter, which recognises that relevant technical disciplines may adopt different study areas and zones of influence.

14.6.4.3 At this stage, baseline information is presented for air quality, noise and vibration, and employment and economic conditions. Baseline information for other relevant wider determinants will be developed at the further ES stages, informed by the corresponding technical assessments.

Air Quality

14.6.4.4 Baseline information presented in **Chapter 5: Air Quality and Odour** identifies existing air quality pressures associated with Heathrow Airport operations and the surrounding Strategic Road Network. Numerous Air Quality Management Areas (AQMAs) and Air Quality Focus Areas are designated within the air quality study areas, reflecting the influence of airport-related activities and major transport corridors. Whilst pollutant concentrations have generally declined in recent years, localised exceedances and elevated concentrations remain associated with major roads and transport infrastructure.

Noise and Vibration

14.6.4.5 Noise forms a notable component of the existing environmental baseline surrounding Heathrow Airport. As identified within **Chapter 20: Noise and Vibration**, aircraft noise is the dominant source of environmental noise across much of the surrounding area, alongside contributions from major road corridors, rail infrastructure and airport ground operations.

14.6.4.6 Communities within Hillingdon, Hounslow, Richmond upon Thames, Ealing, Spelthorne, Slough and Windsor and Maidenhead are currently exposed to aircraft noise above recognised aviation noise thresholds. In 2024, approximately 401,000 people were exposed to daytime aircraft noise above the 54 dB threshold and approximately 372,000 people were exposed to night-time aircraft noise above the 48 dB threshold. The draft HENPS also identifies Heathrow Airport as having the largest population exposed to aircraft noise of any airport in the UK and European Union. Furthermore, approximately 884,000 people were exposed to daytime aircraft noise and approximately 740,000 people were exposed to night-time aircraft noise above the Government's Lowest Observed Adverse Effect Levels (LOAELs), indicating that existing aircraft noise exposure is a notable characteristic of the baseline environment.

Employment and Economic Conditions

14.6.4.7 **Appendix 14.2** identifies a relatively large working-age population and generally high levels of economic activity across the Site-Specific Health Study Area. Employment profiles indicate the importance of transport and storage, logistics, retail and airport-related industries to the local economy, reflecting the influence of Heathrow Airport as a major employment hub. Variation in employment, income and deprivation is also evident across communities within the Site-Specific Health Study Area and Local Health Study Area, indicating differing socio-economic conditions.

Traffic and Transport

14.6.4.8 Baseline information presented in **Chapter 21: Traffic and Transport** identifies Heathrow Airport as a major transport hub with extensive strategic road, rail, bus and coach connections. Heathrow Airport currently serves almost 85 million passengers annually and supports over 80,000 jobs, generating substantial travel demand across the surrounding area. Existing congestion is identified on key routes surrounding the airport, including sections of the M25, M4, A40, A30 and local roads during peak periods. The baseline also identifies extensive public transport connectivity, reflecting the importance of Heathrow Airport as a regional gateway and employment centre and supporting access to employment, services and other destinations across the wider area.

Materials and Waste

14.6.4.9 **Chapter 18: Materials and Waste** identifies the presence of significant sand and gravel resources in the vicinity of the Proposed Development, including safeguarded mineral resources and areas of existing and historic mineral working. The baseline also highlights the importance of aggregate supplies from London, the South East and Hertfordshire, together with the contribution of recycled and secondary aggregates in meeting construction demand. In relation to waste, the baseline identifies an extensive network of waste management infrastructure across the wider region, although available landfill capacity has generally declined over time. The baseline further identifies the Lakeside Energy from Waste facility near Colnbrook as an important component of the existing waste management network and residual waste treatment capacity.

Water Environment

14.6.4.10 **Chapter 22: Water Environment** identifies an extensive network of rivers, streams, artificial watercourses, lakes and reservoirs associated with the River Thames, River Colne and River Crane catchments within and surrounding the Proposed Development. The baseline highlights the presence of numerous water environment receptors, including surface water bodies, groundwater resources, public water supply infrastructure and floodplain areas.

14.6.4.11 The baseline identifies areas of flood risk associated primarily with the River Colne, Colne Brook, Wraysbury River and River Thames, together with localized surface water flood risk across the wider area. The baseline also identifies the Lower Thames Gravels groundwater body as an important groundwater resource that interacts with local rivers and supports the wider water environment. Water supply is currently provided by Affinity Water and wastewater managed by Thames Water, with existing drainage infrastructure and surface water management systems forming a key component of the baseline environment.

Ground Conditions

14.6.4.12 The baseline described in **Chapter 16: Ground Conditions** reflects the long history of airport development, mineral extraction and landfilling within and around Heathrow Airport. Numerous historical and permitted landfill sites are identified within the surrounding area, alongside a range of existing and historic land uses with the potential to have resulted in land contamination, including airport operations, industrial and commercial activities, waste management facilities, transport infrastructure and fuel storage and distribution infrastructure.

14.6.4.13 Existing ground conditions are characterised by extensive sand and gravel deposits associated with the River Thames and River Colne, underlain by a series of aquifers that form important groundwater resources. The baseline also identifies areas of made ground and former mineral workings, which contribute to local variability in ground conditions. Two locally designated geological sites are identified within the surrounding area.

Climate Change

14.6.4.14 The climate baseline outlined in **Chapter 9: Climate Change** identifies that the area already experiences warmer temperatures and lower annual rainfall than the UK average and has been affected by a range of recent extreme weather events, including heatwaves, extreme rainfall, storms and drought conditions. The baseline also highlights the influence of the urban heat island effect associated with Greater London, which can increase the frequency and intensity of high temperature events.

14.6.4.15 Future climate projections indicate that the area is likely to experience hotter, drier summers and warmer, wetter winters, together with an increasing frequency and intensity of extreme weather events. The baseline identifies key climate-related hazards that may affect people, infrastructure and environmental receptors, including heatwaves, flooding, drought, extreme precipitation, storms and wildfires.

Major Accidents and Disasters

14.6.4.16 The baseline described in **Chapter 19: Major Accidents and Disasters** identifies a range of existing activities and infrastructure that have the potential to influence the likelihood or consequences of major accident or disaster events. These include Heathrow Airport operations, major road and rail corridors, fuel infrastructure,

utility networks and hazardous installations within the surrounding area. The baseline also identifies a range of environmental and community receptors that could be affected by such events, including residential communities, transport users, water environment receptors, designated ecological sites and strategic infrastructure. Relevant hazards include aviation-related incidents, hazardous substance releases, major fires, transport incidents, utility failures and extreme weather events.

14.6.5 Existing Baseline Summary

14.6.5.1 Overall, the Site-Specific Health Study Area is characterised by a growing and relatively young population, with generally positive health outcomes when compared with regional and national averages. The majority of residents report good or very good health, levels of disability are generally lower than regional and national comparators, and many health outcome indicators within the Local Health Study Area compare favourably with London, South East and England averages.

14.6.5.2 However, variation exists across both the Site-Specific Health Study Area and Local Health Study Area. Differences in deprivation, income, employment, health outcomes and health behaviours indicate that some communities experience greater levels of existing health need and vulnerability than others. This includes areas associated with lower relative deprivation rankings, poorer health outcomes and higher prevalence of risk factors such as obesity and long-term health conditions.

14.6.5.3 The baseline also identifies a number of existing environmental and socio-economic conditions that may influence health and wellbeing. These include established air quality pressures associated with airport operations and the surrounding transport network, existing exposure to aircraft noise across communities surrounding Heathrow Airport, and variation in economic conditions and employment characteristics across communities. Collectively, these factors contribute to the current health profile of the study area and provide the context against which potential health effects of the Proposed Development will be assessed.

14.6.6 Future Baseline

14.6.6.1 Population projections indicate that the local authorities comprising the Local Health Study Area are expected to experience continued population growth, with the largest increases forecast in Wandsworth, Buckinghamshire, Hillingdon and Runnymede. Continued population growth may increase demand for housing, community infrastructure, healthcare services and transport networks.

14.6.6.2 The health profile of the study area is also expected to evolve over time in response to demographic change, national health trends and ongoing public health interventions. Existing health inequalities and variations in health outcomes are likely to persist, although improvements in life expectancy, health behaviours

and disease prevention may continue in line with national and local public health objectives.

14.6.6.3 Planned development within the study area, including committed residential, commercial and infrastructure schemes, may also contribute to changes in population characteristics, service demand and wider determinants of health. These changes have the potential to influence future baseline conditions and will be considered, where relevant, within the Health assessment.

14.6.6.4 The future baseline will be considered for the assessment years adopted within the ES, including the relevant construction and operational assessment scenarios. It will be informed, where available, by published population and health projections, planned development, anticipated changes in service provision, and information from other environmental topic assessments. Where reliable forecasting data are unavailable, recent and longer-term trends in relevant demographic, socio-economic and population health indicators will be reviewed to inform a reasoned assessment of the likely direction of change. The limitations and uncertainties associated with extrapolating these trends will be clearly identified.

14.6.6.5 The baseline will be reviewed and updated during preparation of the ES to identify any evidence of material changes in health conditions, inequalities or the distribution of vulnerable population groups across the study area. Where available evidence does not indicate a material change in the spatial distribution of health vulnerabilities, the assessment will adopt the existing identified pattern of health inequalities and vulnerable population groups as a reasonable basis for the future baseline. Any reasonably foreseeable changes in population characteristics, health determinants or service provision that could materially influence receptor sensitivity or the assessment of effects will nevertheless be taken into account.

14.6.7 Vulnerable Receptors

14.6.7.1 The baseline identifies population groups that may be more susceptible to changes in environmental, social and economic conditions associated with the Proposed Development, or have a reduced capacity to avoid, adapt to or recover from adverse effects. Identification of these groups has been informed by the baseline population and health profile, the likely significant effects identified in Section 14.7, relevant health assessment guidance, and the WHIASU (2026) Health Impact Assessment: Population Groups and Wider Determinants of Health and Well-being resource[30]. Developed by WHIASU, which is recognised UK centre of expertise in HIA, this resource is widely used by health practitioners to support the identification of population groups and wider determinants of health that may be affected by a proposal. The resource provides a structured framework for identifying potentially affected populations and has informed the identification of sensitive population groups considered within this assessment.

14.6.7.2 The Health assessment will be coordinated with the Equality Impact Assessment and the assessments reported in **Chapter 10: Community, Chapter 11:**

Economics and Employment, and Chapter 12: Recreation. The Equality Impact Assessment will consider differential or disproportionate effects on protected characteristic groups. The population-related EIA chapters will assess direct effects on communities, employment and economic conditions, recreational assets, facilities and services. The Health assessment will draw on these findings to assess the implications for population health, mental wellbeing and health inequalities and will avoid duplicating the assessments undertaken elsewhere.

14.6.7.3 Potentially vulnerable receptors within the Site-Specific Health Study Area and Local Health Study Area include:

- Children and young people, including those with special educational needs and disabilities (SEND);
- Older people;
- Disabled people, including people with mobility, sensory or cognitive needs;
- People with long-term health conditions, existing poor physical or mental health, or conditions that increase susceptibility to environmental change, including respiratory and cardiovascular conditions and immunocompromised people;
- Pregnant women, babies and young families;
- Low-income households and communities experiencing deprivation or existing health inequalities;
- People experiencing housing insecurity, including private and social renters, people in insecure accommodation and households affected by displacement or relocation;
- People who are unemployed, economically inactive, in low-paid or insecure work, have low levels of qualifications, or experience barriers to employment, education, training or skills development;
- People without access to private transport and those reliant on public transport, community or assisted transport, walking, wheeling or cycling;
- People reliant on healthcare, social care, community, cultural or faith facilities, including carers, people living alone, volunteers and people dependent on local or informal support networks;
- Minority ethnic, cultural or faith communities and people who face language, literacy, digital, cognitive or other barriers to accessing information, consultation, services or support;
- Communities experiencing existing or cumulative environmental pressures, including aircraft noise, air quality pressures, flood risk or prolonged construction activity;
- People without access to private outdoor space and those reliant on local open space, recreational facilities, public rights of way or active travel routes;
- Construction workers, airport workers, outdoor workers, shift and night workers, and workers experiencing prolonged exposure to construction or operational activities;
- Passengers, visitors and other transient populations, where a credible project-related health pathway is identified; and
- People requiring urgent or emergency healthcare, assisted travel or additional support during disruption or extreme weather events.

14.6.7.4 Vulnerability is not determined by a single characteristic and may arise through the interaction of multiple factors. A person may experience increased vulnerability through a combination of factors such as age, disability, existing health conditions, socio-economic disadvantage, housing circumstances, caring responsibilities, occupational exposure or reliance on services and support networks.

14.6.7.5 Consistent with the approach advocated within WHIASU guidance, the Health assessment will therefore consider both population characteristics and wider determinants of health when assessing the distribution of potential effects. Particular consideration will be given to whether effects are experienced disproportionately by vulnerable or disadvantaged groups and whether the Proposed Development has the potential to influence existing health inequalities.

14.7 Likely Significant Effects Requiring Assessment

14.7.1.1 The Proposed Development has the potential to affect human health through a range of direct, indirect and cumulative pathways associated with the construction, operation and, where relevant, decommissioning or removal of temporary infrastructure. In accordance with the wider determinants of health framework, the assessment will consider how changes to the physical, social and economic environment may influence population health outcomes, wellbeing and health inequalities.

14.7.1.2 At this scoping stage, potential likely significant effects have been identified where there is a credible pathway between one or more components of the Proposed Development and a population health outcome, taking account of the scale of change, proximity and sensitivity of affected populations, duration of exposure, potential for cumulative effects and the extent to which mitigation is currently defined, deliverable and secured. The following section sets out the potential likely significant effects proposed to be considered during construction, operation and decommissioning.

14.7.2 Construction

14.7.2.1 The construction effects identified in **Table 14-6** are scoped into the Health assessment as potential likely significant effects. Each effect is supported by a credible source-pathway-receptor relationship associated with the construction or pre-construction activities of the Proposed Development. At this stage, the available project information, technical evidence or mitigation commitments do not provide a sufficient basis to exclude the potential for a likely significant effect.

14.7.2.2 The table identifies the relevant construction activities, potential effects on health determinants and principal receptor groups. The assessment will consider the resulting implications for population health, mental wellbeing and health inequalities, including differential effects on vulnerable or disadvantaged groups. It will draw on the findings of relevant technical assessments without duplicating their underlying modelling or assessment.

14.7.2.3 The construction scope will be reviewed as the design, programme, workforce requirements, supporting technical assessments and mitigation measures develop. Effects will remain scoped in unless sufficient evidence demonstrates that a likely significant population health effect can be excluded.

Table 14-6: Likely significant Health effects during construction

Activity / Topic	Effect	Receptor Groups
Construction		
Social Environment: *Housing, relocation and displacement.* Land requirements to support Proposed Development, displaced uses, construction compounds, temporary access arrangements and associated enabling works	These activities may result in the displacement or relocation of residents, community facilities, businesses and other sensitive uses, with potential health effects through stress, anxiety, loss of control, disruption to routines, altered access to schools, employment, healthcare, community facilities and social support, and loss of attachment to place. Effects may arise before physical relocation where there is uncertainty around timing, compensation, support, reprovision or the suitability and accessibility of replacement accommodation or facilities.	Displaced residents, tenants, owner-occupiers, social and private renters, children, older people, disabled people, low income households, carers, people with existing physical or mental health conditions, community facility users and people dependent on local services or social support.
Social Environment: *Housing availability and affordability* Accommodation demand associated with the construction workforce and construction logistics requirements	Construction workforce accommodation demand may give rise to health-relevant effects where non-home-based workers increase demand for temporary accommodation within local housing or visitor accommodation markets. Where these markets are sensitive, this could contribute to reduced accommodation availability, affordability pressures, overcrowding or housing insecurity, with potential implications for population health and health inequalities.	Low income households, renters, key workers, people in insecure accommodation, construction workers requiring temporary accommodation and local residents in constrained accommodation markets.

Activity / Topic	Effect	Receptor Groups
Social Environment: *Open space, leisure, play and blue/green infrastructure* Land requirements, temporary works and construction activity affecting open space, play space, allotments, recreational routes, public rights of way and blue/green infrastructure	These activities may temporarily affect the availability, accessibility, usability, quality or community value of open space and recreational assets. Potential health effects may arise through reduced opportunities for recreation, play, informal activity, food growing, social interaction and access to restorative outdoor environments.	Children, older people, disabled people, people with poor health, people with poor mental health, low income households, people without private outdoor space, allotment holders, recreational users, public rights of way users and communities with limited alternative provision
Social Environment: *Transport Modes, Access and Connections* Construction logistics infrastructure, temporary access arrangements, construction compounds, workforce access and transport, temporary roads, bridges, crossings and traffic management	Construction activities may temporarily affect accessibility, connectivity, journey reliability and the ability to reach homes, services, employment, education, healthcare, community facilities, open space and airport-related destinations. Potential health effects may arise where routes become longer, less direct, less reliable or less accessible, affecting independence, service access, social participation and day-to-day routines.	Residents, pedestrians, cyclists, public transport users, disabled people, older people, children, people without access to a car, low income households, shift workers, people dependent on health and social care services, airport workers, passengers, and affected communities.

Activity / Topic	Effect	Receptor Groups
Social Environment: *Community safety* Construction traffic and logistics, temporary traffic management, compounds, workforce activity, lighting, hoarding, security arrangements and changes to the public realm	Construction may affect actual or perceived safety, including perceptions of road danger, fear and intimidation, personal security concerns, uncertainty around temporary routes and avoidance of affected places. These changes may affect confidence in using local routes and spaces, wellbeing, social participation, informal activity, children's play and access to everyday destinations.	Nearby residents and communities, pedestrians, cyclists, children and young people, older people, disabled people, people with mobility, sensory or cognitive needs, public transport users and communities with existing safety concerns.
Social Environment: *Community identity, culture, resilience and influence* Land acquisition, displacement, demolition, compounds, access changes, prolonged construction activity and changes to valued community assets or places	Construction may affect attachment to place, belonging, collective identity, cultural continuity, trust, perceived control and confidence in the community's ability to adapt. Potential effects include stress, anxiety, reduced wellbeing, weakened community cohesion and reduced resilience, particularly where several environmental, social or economic changes occur concurrently or over an extended period.	Displaced households, long-standing residents, minority cultural or faith communities, groups associated with culturally or socially important places, users of affected community facilities, children and young people, older people, disabled people, people with existing mental health conditions, disadvantaged communities and people facing barriers to consultation or project information.

Activity / Topic	Effect	Receptor Groups
Social Environment: *Social participation, interaction and support* Displacement, relocation, temporary access arrangements, severance, construction disturbance and changes to community facilities, public spaces and meeting places	Construction may reduce the frequency, quality or accessibility of social contact, community participation and practical or emotional support. Closure, relocation, reduced accessibility or reduced amenity of facilities, spaces and routes may contribute to loneliness, social isolation, stress, reduced wellbeing and reduced community resilience.	Older people, disabled people, carers, children and families, people living alone, people with existing physical or mental health conditions, low-income households, people without access to private transport, users of community and faith facilities, volunteers and people reliant on local or informal support networks.
Economic Environment: *Education and training* Temporary or permanent loss, relocation or disruption of educational facilities, training providers and access routes, together with construction-related apprenticeship and skills programmes	Adverse health effects may arise where construction affects educational continuity, attendance, concentration, learning environments or access to schools, nurseries, SEND provision, colleges and training facilities. Beneficial effects may arise through apprenticeships, work placements, vocational training, skills development and pathways into construction, engineering and related employment. These changes may influence attainment, confidence, employability, income prospects, social mobility, mental wellbeing and health inequalities.	Children and young people, SEND pupils, students, apprentices, education staff, young adults not in education, employment or training, unemployed people, people with low qualifications, people seeking to retrain or upskill, low-income households, disabled people and communities experiencing socio-economic disadvantage.

Activity / Topic	Effect	Receptor Groups
Economic Environment: *Employment and Income* Construction employment, apprenticeships, supply-chain activity, local recruitment and procurement, business displacement and changes in access to work	Construction may affect access to employment, income, financial security, job quality and business opportunities. Beneficial effects may arise through direct and indirect construction employment, apprenticeships, skills development, local procurement and supply-chain opportunities. Adverse or unequal effects may arise where existing businesses or workers are displaced, employment is insecure or of poor quality, or opportunities are not accessible to local communities and groups experiencing barriers to employment. These pathways may affect material living conditions, stress, social inclusion, mental wellbeing and health inequalities.	Working-age residents, airport and supply-chain workers, young people entering the labour market, unemployed and economically inactive people, people in low-paid or insecure work, low-income households, disabled people, people with caring responsibilities, local businesses and communities experiencing higher levels of deprivation.
Bio-Physical Environment: *Climate Change and Adaptation* Construction compounds, temporary buildings and hardstanding, vegetation removal, altered drainage, construction traffic, outdoor working and disruption to infrastructure or services during extreme weather	Construction may affect population and workforce exposure or resilience to high temperatures, extreme weather, flooding and air-quality episodes. Potential effects include heat stress, thermal discomfort, respiratory or cardiovascular effects, injury, stress, disruption to transport and essential services, and reduced access to healthcare and other health-supporting infrastructure. Effects may be greater where construction activities are prolonged or overlap with periods of extreme weather. The assessment will focus on material project-related changes and residual vulnerabilities identified by the Climate Change, Flood Risk, Water Environment, Air Quality, Transport and other relevant technical assessments.	Passengers, airport and transport workers, older people, young children, pregnant women, disabled people, people with respiratory or cardiovascular conditions, people with other existing health conditions, people requiring assistance during emergencies, and communities with lower capacity to adapt to extreme weather.

Activity / Topic	Effect	Receptor Groups
Bio-Physical Environment: *Air quality* Demolition, earthworks, construction plant and machinery, material handling and storage, construction traffic, workforce travel, temporary compounds, haul routes and logistics infrastructure	Construction may alter exposure to nitrogen dioxide, particulate matter and construction dust. Potential health effects include the contribution to, or exacerbation of, respiratory and cardiovascular illness, asthma symptoms and other non-communicable disease outcomes. Effects may be unequal where additional exposure affects communities with poorer health, deprivation or existing environmental burdens.	Children, older people, pregnant women, people with asthma or other respiratory conditions, people with cardiovascular disease, disabled people, people with existing poor health, construction workers and communities experiencing socio-economic or existing air quality disadvantage. Sensitive locations may include residential areas, schools, nurseries, healthcare facilities and care settings.
Bio-Physical Environment: *Ultrafine particles* Combustion emissions from construction plant, machinery and construction-related vehicle movements	Construction activities may change exposure to ultrafine particles. Although the evidence base and assessment methods are less established than for regulated pollutants, a credible pathway exists through which exposure could affect respiratory and cardiovascular health. Assessment will be proportionate and informed by the Air Quality assessment.	Children, older people, pregnant women, people with respiratory or cardiovascular conditions and communities experiencing existing air quality pressures, poorer health or socio-economic disadvantage.

Activity / Topic	Effect	Receptor Groups
Bio-Physical Environment: *Noise and vibration* Demolition, earthworks, piling, construction plant, compounds, highway works, logistics activity and construction traffic	Construction noise and vibration may result in annoyance, sleep disturbance, stress, reduced wellbeing, interference with communication and concentration, and disruption to learning and the use of homes and outdoor amenity spaces. Effects may be greater where prolonged construction exposure adds to existing aircraft, airport and road traffic noise.	Nearby residents, children, older people, disabled people, people with existing physical or mental health conditions, shift workers and users of schools, nurseries, healthcare facilities, care settings, homes and outdoor amenity spaces.
Bio-Physical Environment: *Land Quality* Site clearance, demolition, excavation, earthworks, piling, dewatering, materials handling, and the disturbance, movement or temporary storage of potentially contaminated soils, groundwater, made ground or hazardous materials.	Construction activities may disturb existing contamination or create exposure pathways through dust, vapour, direct contact, ingestion or the migration of contaminants through soil or water. Potential health effects may arise where a material change in exposure affects nearby communities or other sensitive populations.	Nearby residents and communities within areas where the Land Quality assessment identifies a credible contaminant exposure pathway, including children and people with existing health conditions who may be more susceptible to exposure. Construction workers will only be considered where a population-health pathway is identified that is not fully addressed through occupational health and safety controls.

Activity / Topic	Effect	Receptor Groups
Institutional and Built Environment: *Public Understanding of Risk* Construction and pre-construction activities that may create community concern about environmental or public health risks, including works relating to aviation fuel or electrical infrastructure, contaminated land, hazardous materials, pests and disease vectors, communicable disease, spills or other hazardous events.	Actual or perceived risks associated with construction may contribute to anxiety, stress, reduced trust or loss of perceived control, even where technical risks are appropriately managed through design, regulation or construction controls. Effects may vary between communities according to their proximity to works, existing environmental conditions, previous experience and the combination or duration of construction effects. Public understanding of risk is scoped into the construction Health assessment. The assessment will distinguish between technical and perceived risk, drawing on relevant technical assessments including **Chapter 19: Major Accidents and Disasters** without duplicating them. It will consider the accessibility and credibility of information, community liaison, notification and complaints arrangements, and whether project-related concern could materially affect mental wellbeing or health inequalities. Community Impact Reports, or an equivalent locally specific reporting mechanism, will be considered to communicate the health determinants, cumulative and in-combination effects, mitigation and monitoring relevant to individual affected communities. The need, form and coverage of this reporting will be refined through assessment and engagement.	Residents and communities affected by construction activities or associated infrastructure, particularly communities experiencing multiple or prolonged effects; people with existing mental health conditions or heightened anxiety; parents and carers; and people who face language, digital, literacy or other barriers to accessing or understanding project information.

Activity / Topic	Effect	Receptor Groups
Institutional and Built Environment: *Health and social care services* Construction traffic, temporary road closures, diversions, changed public transport arrangements, workforce accommodation and construction workforce requirements	Construction may affect access to health and social care through changes in journey time, reliability or route availability for patients, visitors, staff, ambulances, patient transport and community or domiciliary care. Demand may also arise from non-home-based workers, depending on workforce size, origin, accommodation and on-site provision. Effects may include delayed or missed appointments, disruption to treatment or care, stress and reduced continuity of care.	People requiring frequent treatment or support, older people, disabled people, pregnant women, children, people with long-term physical or mental health conditions, carers, low-income households, people without access to a car, health and social care staff, ambulance and patient transport users, and users of community or domiciliary care services.
Institutional and Built Environment: *Communicable diseases* Temporary concentration and movement of the construction workforce, including use of shared transport, welfare facilities and accommodation	The concentration and movement of workers may increase opportunities for communicable disease transmission. The pathway will depend on workforce size, origin, working and accommodation arrangements, and the infection prevention, outbreak management and occupational health measures implemented. Potential effects include workforce or community transmission and associated demand on health services.	Construction workers, people sharing workforce accommodation or transport, local communities in contact with the workforce, people with existing health conditions, children, older people, disabled people and local health service users.

Activity / Topic	Effect	Receptor Groups
Institutional and Built Environment: *Pest control* Site clearance, earthworks, demolition, waste storage and disturbance of habitats or drainage features	Construction could alter conditions affecting pests and disease vectors, including their attraction, harbourage or movement. Where not appropriately managed, this could create health pathways affecting the workforce or nearby communities. A proportionate qualitative assessment will consider prevention, surveillance, control and response measures.	Construction workers, nearby residents, local businesses, users of surrounding land and community facilities, children, older people, people with existing health conditions and other groups susceptible to pest or vector-related health effects.
Institutional and Built Environment: *Flooding* Temporary changes to drainage, surface-water flows or access to flood-management infrastructure associated with construction activities	Where construction results in a material change in flood risk, potential health effects may arise through disruption to homes, transport, community infrastructure and essential services, temporary displacement, and exposure to damp or mould following flooding. Actual or perceived changes in flood risk may also affect mental health and wellbeing.	Residents and households in affected or flood-sensitive areas, tenants, low-income households, older people, disabled people, children, carers, people with long-term physical or mental health conditions, users of essential services, transport users and communities with previous experience of, or concerns about, flooding.

14.7.3 Operation

14.7.3.1 The operational effects identified in **Table 14-7** are scoped into the Health assessment where the Proposed Development may result in material or sustained changes to environmental exposure, accessibility, community conditions, employment and economic opportunities, or health-supporting services and infrastructure.

14.7.3.2 The assessment will consider both beneficial and adverse effects, including their geographical distribution and duration and whether benefits and burdens may be

experienced differently across population groups. Particular attention will be given to communities and vulnerable or disadvantaged groups with existing health needs, inequalities or environmental pressures.

14.7.3.3 The operational assessment will be informed by the design and operational parameters, passenger and workforce forecasts, future baseline conditions and outputs from the relevant technical assessments. **Table 14-7** identifies the operational activities, health determinants and receptor groups for which the potential for likely significant effects requires further assessment.

Table 14-7: Likely significant Health effects during operation

Activity / Topic	Effect	Receptor
Operation		
Social Environment: *Housing, relocation and displacement* Permanent land-use change, completed relocation and reprovision, operation of airport-related development, and associated changes in local housing demand	Residual effects may arise where relocated residents, businesses or users of community facilities experience lasting changes in access to services, social networks, employment, education, healthcare, open space or transport. Operational employment and supporting development could also affect housing demand, affordability, availability, overcrowding or housing security. These changes may affect stress, mental wellbeing, social support, community stability and health inequalities.	Relocated or displaced households, tenants, owner-occupiers, social and private renters, community facility and service users, low-income households, key workers, young people entering the housing market, children, older people, disabled people, carers and people with existing physical or mental health conditions.

Activity / Topic	Effect	Receptor
Social Environment: *Open space, leisure, play and blue/green infrastructure* Permanent loss, alteration, replacement, reprovision or enhancement of open space, leisure assets, play space, allotments, recreational routes, public rights of way and blue/green infrastructure	Operational changes may affect the availability, accessibility, quality, safety, function or community value of open space and recreational assets. Potential health effects may arise through changes in opportunities for recreation, play, walking, wheeling, cycling, food growing, social interaction and access to restorative environments. Benefits may arise where improved or better-connected provision is secured and accessible to affected communities.	Children and young people, older people, disabled people, people with existing poor physical or mental health, low-income households, people without private outdoor space, allotment holders, recreational users, pedestrians, cyclists and communities with limited alternative provision.
Social Environment: *Transport modes, access and connections* Operation of the Inter Terminal Plaza, public transport interchange, highway network changes, parkways, parking, HGV facilities, active travel infrastructure, crossings, wayfinding and airport access arrangements	Permanent changes may affect accessibility, connectivity, journey reliability and the ability to reach employment, education, healthcare, community facilities, open space and airport-related destinations. Adverse effects may arise from severance, longer or less direct routes, reduced affordability, poor interchange or barriers to travel. Benefits may arise through improved public transport, active travel connections, step-free access, legibility and access to employment and services.	Local residents, airport workers, passengers, pedestrians, cyclists, public transport users, disabled people, older people, children and young people, people without access to a car, low-income households, shift and night workers, carers and people dependent on health, social care or assisted travel.

Activity / Topic	Effect	Receptor
Social Environment: *Community safety* Permanent highways, crossings, public transport infrastructure, active travel routes, HGV facilities, terminal access, lighting, wayfinding, public realm and security arrangements	Operational arrangements may affect actual or perceived road safety, personal security, fear and intimidation, confidence in using routes and spaces, and willingness to access public transport, services, employment and community facilities. Effects may be adverse where routes are difficult to navigate or create perceived barriers, or beneficial where accessible design, improved crossings, lighting and wayfinding support confidence, independence and participation.	Nearby residents and communities, pedestrians, cyclists, public transport users, children and young people, older people, disabled people, people with mobility, sensory or cognitive needs, passengers, airport workers, shift workers and communities with existing safety concerns.
Social Environment: *Community identity, culture, resilience and influence* Permanent land-use change, relocated or reprovided community assets, changes to local character, increased airport activity and altered routes, public spaces and environmental conditions	Operational change may affect attachment to place, belonging, cultural continuity, community identity, trust, perceived control and the ability of communities to adapt. Adverse effects may arise through the permanent loss, alteration or changed setting of valued places. Benefits may arise where suitable replacement facilities, enhanced public spaces and continued community involvement support local identity and resilience.	Displaced households, long-standing residents, minority cultural or faith communities, users of culturally or socially important places, users of affected or reprovided community facilities, children and young people, older people, disabled people, people with existing mental health conditions and communities experiencing disadvantage or cumulative change.

Activity / Topic	Effect	Receptor
Social Environment: *Social participation, interaction and support* Permanent changes to community facilities, public spaces, meeting places, transport connections, access routes and formal or informal support networks	Operational changes may affect opportunities for social contact, caring, volunteering, organised activity and community participation. Adverse effects may arise where facilities or networks are lost, relocated or made less accessible, affordable, suitable or culturally appropriate, contributing to loneliness, isolation or reduced wellbeing. Benefits may arise where improved facilities, public spaces or connections increase opportunities for participation and social interaction.	Older people, disabled people, carers, children and families, people living alone, people with existing physical or mental health conditions, low-income households, people without access to private transport, volunteers, users of community and faith facilities and people reliant on local or informal support networks.
Economic Environment: *Education and training* Operational skills programmes, apprenticeships, vocational training, education partnerships and pathways into airport-related employment and career progression	Operational activities may create beneficial effects through access to training, qualifications, apprenticeships, skills development and long-term career pathways. Adverse or unequal effects may arise where opportunities are not accessible to local communities or groups experiencing existing barriers to participation. These changes may influence employability, income prospects, confidence, social mobility, mental wellbeing and long-term health inequalities.	Children and young people, students, apprentices, young adults entering the labour market, people not in education, employment or training, unemployed or economically inactive people, people with low qualifications, low-income households, disabled people, people seeking to retrain or progress, and communities experiencing socio-economic disadvantage.

Activity / Topic	Effect	Receptor
Economic Environment: *Employment and income* Operational airport employment, supply-chain activity, local recruitment, procurement, business opportunities and associated economic activity	Operation may affect access to employment, income, financial security, job quality, career progression and business opportunities. Benefits may arise through direct, indirect and induced employment and access to secure, good-quality work. Adverse or unequal effects may arise where opportunities are inaccessible to local communities, employment is insecure or poor quality, or economic benefits are unevenly distributed. These pathways may affect living standards, stress, social inclusion, wellbeing and health inequalities.	Working-age residents, airport and supply-chain workers, young people entering the labour market, unemployed and economically inactive people, people in low-paid or insecure work, low-income households, disabled people, people with caring responsibilities, local businesses and communities experiencing higher levels of deprivation.
Bio-Physical Environment: *Climate change and adaptation* Operation of terminal buildings, occupied airport buildings, transport infrastructure, public spaces, drainage and other infrastructure under future climatic conditions	High temperatures, extreme weather or flooding may affect thermal comfort, the continued safe use of occupied buildings, access, transport, essential services and public spaces. Potential effects include heat-related illness, thermal discomfort, stress, disruption and reduced access to health-supporting infrastructure. Assessment will focus on material residual vulnerabilities identified by the relevant climate and technical assessments.	Passengers, airport and transport workers, older people, young children, pregnant women, disabled people, people with respiratory or cardiovascular conditions, people with other existing health conditions, people requiring assistance during emergencies, and communities with lower capacity to adapt to extreme weather.

Activity / Topic	Effect	Receptor
Bio-Physical Environment: *Air quality* Aircraft movements, airside activities, ground support equipment, operational plant, surface access traffic, freight and other airport-related vehicle movements	Operation may alter exposure to nitrogen dioxide, PM_{10} and $PM_{2.5}$. Potential health effects include contribution to or exacerbation of respiratory and cardiovascular illness and wider non-communicable disease outcomes. Effects may be unequal where changes are concentrated in communities with existing poor health, deprivation, air quality pressures or cumulative environmental burdens.	Children, older people, pregnant women, people with respiratory or cardiovascular conditions, disabled people, people with existing poor health, airport and outdoor workers, and communities experiencing deprivation or existing air quality disadvantage. Relevant sensitive locations include residential areas, schools, nurseries, healthcare facilities, care settings and publicly accessible spaces.
Bio-Physical Environment: *Ultrafine particles* Aircraft movements, airside combustion sources, ground support equipment and surface access traffic	Operation may change exposure to ultrafine particles. Although there are no generally agreed concentration thresholds for assessing UFP-related health risk, a credible pathway exists through which changes in exposure could affect respiratory and cardiovascular health and potentially exacerbate existing health inequalities. Assessment will be proportionate to the available evidence and technical capability.	Children, older people, pregnant women, people with respiratory or cardiovascular conditions, airport and airside workers, and communities experiencing poorer health, socio-economic disadvantage, existing air quality pressures or cumulative exposure to airport and transport emissions.

Activity / Topic	Effect	Receptor
Bio-Physical Environment: *Noise and vibration* Aircraft arrivals and departures, taxiing, apron and stand activity, ground support equipment, terminal and airside plant, surface access traffic and freight movements	Operational activity may change the level, timing, character and geographical distribution of aircraft, ground and surface-access noise. Potential health effects include annoyance, sleep disturbance, stress, reduced wellbeing and quality of life, cardiovascular effects, and effects on children's learning and cognitive development. Effects may be greater for populations with high existing exposure or where noise combines with other environmental burdens.	Residents, children and young people, older people, disabled people, people with cardiovascular or mental health conditions, shift and night workers, airport workers, and users of schools, nurseries, healthcare facilities, care settings, homes and outdoor amenity spaces.

Institutional and Built Environment: *Health and social care services* Increased passenger throughput, airport employment, visitor activity, surface access changes and operational emergency, healthcare and statutory support requirements	Operation may affect access to, and demand for, health and social care services through increased passenger and workforce activity, changes to the highway and public transport networks, and operational emergency or healthcare requirements. Relevant pathways include changes in journey times and reliability for patients, visitors, staff, ambulances, patient transport and community-based care, together with potential demand for urgent and emergency care, ambulance services, on-site response services and other local or specialist support. Routine healthcare needs for most passengers and home-based workers are expected to be met through their existing healthcare arrangements and will not be treated as an adverse effect solely on the basis of increased passenger or workforce numbers. The assessment will focus on project-related changes with the potential to materially affect access, continuity of care, service capacity or resilience. The assessment will also consider the potential implications of increased passenger movements for statutory health and social care support provided to unaccompanied asylum-seeking children arriving at Heathrow. The Inspectorate identified that the London Borough of Hillingdon has statutory responsibilities where unaccompanied children first present on entry to the UK and requested further consideration of whether increased flights could materially increase demand on local services. This pathway will be assessed using available passenger information and	People requiring urgent or emergency care; people with long-term physical or mental health conditions; older people; disabled people; pregnant women; children and young people, including unaccompanied asylum-seeking children requiring statutory support; passengers with additional medical or support needs; airport and shift workers; carers; health and social care staff; and people reliant on ambulance, patient transport, community health or social care services.

Activity / Topic	Effect	Receptor
	relevant service evidence and will be informed by engagement with the London Borough of Hillingdon, UKHSA and relevant health and social care bodies. Potential health effects include delayed or less reliable access to care, disruption to treatment or community-based support, reduced continuity of care and additional pressure on services where a material project-related change is not adequately planned for.	
Institutional and Built Environment: *Communicable diseases* International passenger movements and the concentration of passengers and workers within terminal, transport and workplace environments	Changes in passenger throughput, terminal capacity, operational geography or supporting infrastructure may affect the capacity and resilience of Port Health, surveillance, isolation, notification and outbreak-response arrangements. Assessment will focus on whether project-specific infrastructure, capacity or procedural changes are required, rather than attempting to quantify routine disease transmission or incidence.	Passengers, airport and airline workers, border and Port Health personnel, transport workers, people with existing health conditions, children, older people, disabled people, people who are immunocompromised, local communities and users of health services involved in outbreak response.

Activity / Topic	Effect	Receptor
Institutional and Built Environment: *Public understanding of risk* Operation of airport infrastructure and public concern about air quality, noise, flooding, aviation fuel, major accidents, electromagnetic fields, pests, disease and other environmental or public-health risks	Actual or perceived environmental and public-health risks may affect concern, stress, trust, sense of control and mental wellbeing. Effects may arise where information is unclear, inconsistent or inaccessible, or where several concerns affect the same community. The assessment will consider how risks, technical findings, controls and residual uncertainties are communicated and understood, without duplicating the underlying technical assessments.	Nearby residents and communities, children and families, older people, disabled people, people with existing physical or mental health conditions, minority ethnic or faith communities, people facing language or information-access barriers, users of schools and care settings, airport workers and communities experiencing cumulative environmental pressures.
Institutional and Built Environment: *Flooding* Changes to drainage, water storage, surface-water management and associated flood-management infrastructure during operation	Where operation results in a material change or residual vulnerability in flood risk, health effects may arise through disruption to homes, transport, community infrastructure and essential services, temporary displacement, post-flood damp or mould, and effects on mental health and wellbeing. Actual or perceived changes in flood risk may also influence community concern, stress and confidence.	Residents and households in affected or flood-sensitive areas, tenants, low-income households, older people, disabled people, children, carers, people with long-term physical or mental health conditions, users of essential services, transport users and communities with previous experience of, or concerns about, flooding.

14.7.4 Decommissioning

14.7.4.1 The Proposed Development is intended to form a permanent part of Heathrow Airport. Decommissioning of the Proposed Development is not currently anticipated and no decommissioning activities, programme or parameters have been defined. The overarching approach to decommissioning is set out in **Chapter 4: Approach to EIA**.

14.7.4.2 If decommissioning were proposed in the future, removal or demolition activities could give rise to temporary health pathways broadly similar to those associated with construction. Depending on the nature and location of the works, these could include changes in air quality, noise and vibration, traffic and access, community safety, land quality, flooding, open space, employment and income, access to services, and public understanding of risk. The relevant receptors would be determined by the location and extent of the future activities and the populations exposed.

14.7.4.3 However, in the absence of defined decommissioning proposals, it is not possible or proportionate at this stage to characterise the scale, duration, geographical extent or magnitude of these effects. Decommissioning is therefore not proposed for separate assessment within the Health chapter or inclusion as a series of individual effects in the likely significant effects table.

14.7.4.4 Any future decommissioning proposal would be expected to be subject to the planning, environmental assessment and regulatory requirements applicable at that time. This would provide the appropriate basis for assessing population health effects, identifying affected communities and vulnerable groups, and establishing proportionate mitigation, monitoring and community liaison arrangements. Where individual components of the Proposed Development have a defined design life or foreseeable replacement or removal requirement, these will be considered through the relevant technical assessment and reflected in the Health assessment only where a credible population health pathway is identified.

14.8 Effects Not Requiring Assessment

14.8.1.1 **Table 14-10** identifies effects that are not proposed for further assessment in the ES. These matters have been scoped out where there is no credible source-pathway-receptor relationship capable of giving rise to a likely significant population health effect, or where the effect is appropriately addressed through another EIA chapter or established regulatory controls.

14.8.1.2 The scope will be reviewed as the design and supporting assessments develop. If new information indicates potential for a likely significant health effect, the matter will be considered further in the ES.

Table 14-8: Potential effects to be scoped out of the Health assessment

Activity	Effect	Receptor	Justification for scoping out
Health Related Behaviours: Physical Activity (*Construction and Operation phases*)	No likely significant effect is anticipated as a standalone physical activity determinant. Any change in physical activity would arise indirectly through changes to open space, leisure and play provision, public rights of way, active travel opportunities, transport connectivity, accessibility, or the attractiveness and usability of places.	Children and young people, older people, disabled people, people with existing poor health, low-income households, recreational users, pedestrians, cyclists and communities reliant on local open spaces, recreational assets and active travel routes.	Physical activity is scoped out as a standalone determinant to avoid duplication. Relevant effects will be assessed through Open Space, Leisure, Play and Blue/Green Infrastructure and Transport Modes, Access and Connections, which will consider the health implications of changes to recreation, active travel, accessibility and connectivity.
Health Related Behaviours: Risk Taking Behaviour *(Construction and Operation phases)*	No likely significant population health effect is anticipated. The Proposed Development is not expected to materially alter patterns of alcohol consumption, smoking, gambling or other risk-taking behaviours.	Construction workers, airport workers, passengers, visitors, local residents and surrounding communities.	No credible project-related pathway has been identified through which the construction or operational workforce, airport users or decommissioning activities would materially change risk-taking behaviour at a population level. Occupational and workforce-related behaviours will be managed through established health, safety, welfare and wellbeing arrangements.

Activity	Effect	Receptor	Justification for scoping out
Health Related Behaviours: Diet Nutrition *Construction and Operation phases)*	No likely significant population health effect is anticipated. The Proposed Development is not expected to materially affect dietary behaviour, food availability, food affordability or nutritional outcomes.	Local residents, construction workers, airport workers, passengers, visitors and surrounding communities.	The Proposed Development is not anticipated to materially affect food production, food distribution networks or community access to healthy and affordable food. Food and beverage provision for workers, passengers and visitors will be addressed through routine operational, procurement and commercial arrangements and is not expected to influence population-level dietary or nutritional outcomes.
Bio-Physical Environment: Water Quality or Availability (*Construction and Operation phases)*	No likely significant population health effect is anticipated. Potential effects could arise through deterioration in water quality, contamination of drinking or recreational water, reduced water availability or disruption to water-supply infrastructure.	Local residents, construction workers, airport workers, visitors, recreational water users, children, older people and people with existing health conditions.	The Proposed Development is not expected to materially affect drinking-water supplies, recreational or bathing waters, water availability or water utility infrastructure. Effects on surface water, groundwater, water resources and water quality will be assessed and managed through the Water Environment assessment, applicable environmental management measures and regulatory requirements. No separate population health assessment is therefore required.
Bio-Physical Environment: Electromagnetic Fields *(Construction and Operation phases)*	No likely significant effects are anticipated from exposure to electromagnetic fields generated by electrical infrastructure associated with	Residents, construction workers, airport workers, community facility users, healthcare facility users and	Electrical infrastructure associated with the Proposed Development would be designed and operated in accordance with the International Commission on Non-Ionising Radiation Protection (ICNIRP) guidelines and the

Activity	Effect	Receptor	Justification for scoping out
	the Proposed Development.	the wider population.	Government's voluntary Code of Practice on EMF public exposure. Compliance with these established exposure limits is intended to protect public health and ensure that exposure levels do not present a significant health risk. Any infrastructure exceeding 132 kV would be required to demonstrate compliance through the relevant regulatory processes. As a result, no credible source-pathway receptor linkage has been identified that would give rise to likely significant health effects from EMF exposure during construction, operation or decommissioning. Consistent with ISEP guidance, matters addressed through separate regulatory and risk management regimes do not require further assessment within the Health chapter. However, public understanding of risk associated with EMF infrastructure will remain scoped in to the Health assessment where relevant, recognising that concern, anxiety and perceived risk may represent a distinct pathway affecting health and wellbeing.
Bio-Physical Environment: Land quality	No likely significant population health effect is anticipated.	Local residents, airport workers, maintenance and decommissioning workers, visitors,	Land contamination risks will be identified and addressed through investigation, remediation, design controls and relevant regulatory

Activity	Effect	Receptor	Justification for scoping out
(Operation phase only)	Effects could arise if contaminated land created a completed exposure pathway affecting workers or nearby communities.	children, older people and people with existing health conditions.	requirements. During operation and decommissioning, no separate source-pathway-receptor relationship is anticipated that could result in a likely significant population health effect. Any residual risks will be addressed through the Land Quality assessment and associated regulatory controls.
Institutional and Built Environment: Ionising Radiation *(Construction and operation phases)*	No likely significant population health effect is anticipated from exposure to ionising radiation associated with the Proposed Development. Potential effects could arise only where regulated radioactive sources or materials created an exposure pathway affecting workers or the public.	Construction, operational, maintenance and decommissioning workers, passengers, visitors, nearby residents and users of surrounding community facilities.	Any ionising radiation sources or radioactive materials required for security, screening, medical, inspection or other airport functions will be subject to applicable certification, licensing, operating and exposure-control requirements. These established controls are intended to prevent material exposure of workers or the public. The Proposed Development is not expected to introduce an uncontrolled population exposure pathway capable of giving rise to a likely significant health effect. Occupational exposure will be managed through the applicable radiation-protection regime and will not be duplicated within the Health assessment.
Institutional and Built Environment: Utilities Disruption	No likely significant health effect is anticipated. Potential effects	Local residents, businesses, healthcare facilities, community	Interactions with existing utilities will be identified and managed through coordinated protection, diversion, connection and

Activity	Effect	Receptor	Justification for scoping out
(Construction and Operation phases)	could arise where disruption to electricity, gas, water, wastewater, communications or other essential services affects homes, businesses, healthcare facilities or community infrastructure.	facilities, construction workers, airport workers and users of affected services.	continuity arrangements developed with the relevant utility providers. The Proposed Development is not expected to cause prolonged or widespread interruption to essential services. Any local or temporary disruption will be managed through established construction, operational and emergency arrangements and is not expected to result in a likely significant population health effect.
Institutional and Built Environment: Hazardous Waste *(Construction and Operation phases)*	No likely significant population health effect is anticipated. Effects could arise through uncontrolled handling, storage, transport, release or disposal of hazardous waste.	Construction, operational, maintenance and decommissioning workers, nearby residents, local businesses and users of surrounding land.	Hazardous waste will be identified, handled, stored, transported and disposed of in accordance with applicable environmental legislation, permitting requirements and waste-management procedures. These controls are expected to prevent uncontrolled releases and completed exposure pathways affecting surrounding populations. Occupational risks will be managed through relevant workplace health and safety arrangements and will not be duplicated within the Health assessment.
Institutional and Built Environment: Aviation Fuel *(Construction and Operation phases)*	No likely significant population health effect is anticipated from the routine storage, handling, transfer or use of	Construction workers, airport workers, nearby residents, users of surrounding land, businesses and community facilities.	Aviation fuel storage, handling and transfer activities would be undertaken in accordance with relevant statutory and regulatory requirements, including the Control of Major Accident Hazards (COMAH)

Activity	Effect	Receptor	Justification for scoping out
	aviation fuel. Potential effects could arise from direct exposure or an accidental release or spill.		Regulations 2015 and other applicable environmental, health and safety controls. Routine fuel management activities are a normal component of airport operations and are managed through established operational procedures, emergency planning arrangements and regulatory oversight. Potential effects associated with accidental fuel releases, spill events or other incident-led scenarios are considered separately within the Major Accidents and Disasters assessment. Consequently, no likely significant health effects associated with the routine storage, handling or use of aviation fuel have been identified for the construction, operation or decommissioning phases. Public perception and understanding of risk associated with aviation fuel infrastructure will be considered separately under the Public Understanding of Risk determinant, recognising that concern regarding fuel storage and associated infrastructure may influence wellbeing and perceptions of risk, irrespective of the likelihood of an actual health effect.
Institutional and Built	No likely significant population health	Airport and decommissioning workers, nearby	Operation and decommissioning are not expected to introduce a

Activity	Effect	Receptor	Justification for scoping out
Environment: Pest Control *(Operation phase only)*	effect is anticipated. Potential effects could arise through the attraction, harbourage or movement of pests and disease vectors.	residents, local businesses, users of surrounding land and users of community facilities.	distinct or material pest or vector pathway capable of giving rise to a likely significant population health effect. Risks will be managed through applicable environmental health and hygiene requirements and established surveillance, control and response procedures. The ES will identify the measures and responsibilities relied upon. Construction-phase pest and vector risks will be considered separately within the scoped-in assessment.
Institutional and Built Environment: Wider Societal Infrastructure and Resources *(Construction and Operation phases)*	Potential changes in demand for, capacity of or access to wider societal infrastructure, public services and community resources	Local and wider communities, users of community facilities and public services, and service providers.	Effects on community facilities, public service provision and their wider catchments will be assessed within the **Chapter 10: Community**. Effects associated with employment, labour markets, housing and wider socio-economic change will be assessed within **Chapter 11: Economics and Employment**. Relevant health implications will be considered through the determinant-specific assessments within the Health chapter, where appropriate. A separate assessment of wider societal infrastructure and resources would therefore duplicate matters assessed elsewhere and is scoped out for all phases.

14.9 Proposed Approach to Assessment

14.9.1 Assessment Methodology

14.9.1.1 The Health assessment will identify, describe and assess the likely significant beneficial and adverse effects of the Proposed Development on population health. The assessment will be undertaken in accordance with the EIA Regulations and the guidance identified in **Section 14.2**, with particular regard to the ISEP (2022) 'Guide to Effective Scoping of Human Health in Environmental Impact Assessment' and 'Guide to Determining Significance for Human Health in Environmental Impact Assessment'.

14.9.1.2 The ISEP guidance provides a proportionate framework for considering physical, mental health and social wellbeing, including health protection, health improvement and healthcare services considerations. It also recognizes the importance of considering the distribution of effects and the potential for the Proposed Development to affect existing health inequalities.

14.9.1.3 The assessment will be structured around the environmental, social, economic and institutional determinants of health scoped into further assessment in **Section 14.7**. Physical health, mental health and wellbeing, and non-communicable diseases will be considered as potential outcomes arising through these determinants.

14.9.2 Definition of Health

14.9.2.1 The assessment will adopt the WHO definition that *"health is a state of complete physical, social and mental wellbeing and not simply the absence of disease or infirmity".* This internationally recognised definition is widely accepted as the standard approach within health assessments. This definition is two-fold in that human health is framed positively and comprehensively as a concept encompassing physical health, mental health and social wellbeing while also highlighting the importance of minimizing disease and illness.

14.9.2.2 This definition reflects the understanding that an individual's inherited traits interact with lifestyle, community, environmental, social and economic factors as well as a much wider range of issues to determine their health outcomes.

14.9.3 Study Area

14.9.3.1 The geographic scope of the Health assessment will follow the approach set out in **Section 14.4** and will be informed by the ISEP Guide to Effective Scoping of Human Health in Environmental Impact Assessment (2022).

14.9.3.2 The Health assessment will interpret the public health implications of changes identified across other relevant EIA assessments. It will therefore draw on the study areas, zones of influence, affected receptors and assessment outputs defined by relevant technical chapters, including **Chapter 5: Air Quality and**

Odour, Chapter 9: Climate Change, Chapter 10: Community, Chapter 11: Economics and Employment, Chapter 12: Recreation, Chapter 15: Landscape, Townscape and Visual Impact, Chapter 19: Major Accidents and Disasters, Chapter 20: Noise and Vibration, Chapter 21: Traffic and Transport, and **Chapter 22: Water Environment.** Clear cross-referencing will be provided where the assessment relies on the findings of another chapter.

14.9.3.3 The study areas adopted by these technical assessments will not necessarily define the full spatial extent of every potential health effect. Some health pathways, including those relating to employment, housing, access to services, community identity, perceptions of risk and mental wellbeing, may operate across different or less clearly bounded geographies. The Health assessment will therefore use the health study areas defined in **Section 14.4** to characterise the populations potentially affected and their sensitivity to change.

14.9.3.4 Consistent with ISEP guidance, the health study areas will principally provide a framework for identifying and characterising population groups. They will not be treated as fixed boundaries beyond which individual health effects cannot occur. Instead, they represent the areas in which the majority of the relevant population exposure or change is anticipated and which would be expected to drive any conclusion regarding likely significant population health effects.

14.9.3.5 As the relevant population and geographical extent of an effect will vary between determinants of health, the assessment will apply the following study areas proportionately:

- **Site-Specific Health Study Area:** comprising the communities most likely to experience localised effects associated with the Proposed Development. This includes populations potentially affected by land requirements, construction activity, environmental exposure, access disruption, severance and changes to local facilities, services, routes and open spaces. The study area is based on the community areas defined using relevant Output Areas and aligns, where appropriate, with the spatial approach applied in the **Chapter 10: Community**, **Chapter 11 Economic and Employment** and **Chapter 12: Recreation**.
- **Local Health Study Area:** comprising the 11 local authority areas identified in **Section 14.4**. This study area provides the principal geography for characterising wider health conditions, health inequalities and relevant service and community contexts. It will also support consideration of effects that extend beyond individual community areas, including workforce accommodation, housing, healthcare demand, labour market effects and cumulative development.
- **Regional Health Study Area:** comprising London and the South East. This will be applied where effects operate at a broader scale, including effects associated with employment, labour markets, strategic transport and connectivity, airport users and the regional economy.
- **National Health Study Area:** comprising England. This will be applied where a health pathway or relevant comparator operates at a national level.
- **Determinant-specific study areas:** where appropriate, the assessment will also use the study area or zone of influence defined by the technical

assessment providing the underlying evidence. This may include noise contours, air quality modelling areas, transport networks, service catchments, construction workforce accommodation areas, areas affected by land take, or locations experiencing changes in access or connectivity.

14.9.3.6 The selection of the relevant study area will be explained for each scoped-in health pathway. Where a pathway extends beyond the principal health study areas, or where geographically dispersed elements of the Proposed Development create distinct areas of influence, an appropriate determinant-specific geography will be applied. This will ensure that the assessment captures the relevant population without unnecessarily extending the same study area to pathways operating at materially different spatial scales.

14.9.3.7 The study areas may be refined as the design, construction programme and technical assessments develop. Any refinement will be based on the extent of the relevant source-pathway-receptor relationship and will be clearly explained in the ES. This allows the assessment to respond to changes in the Proposed Development while maintaining a proportionate and transparent basis for identifying the populations most likely to experience significant effects. The current chapter already establishes Site-Specific, Local, Regional and National Health Study Areas, with additional areas available where a determinant does not align with those boundaries.

14.9.4 Baseline

14.9.4.1 The Health assessment will expand on the existing baseline provided in **Appendix 14.2** and summarized in **Section 14.6**. The baseline will be reviewed and updated at later stages of the EIA using the most recent proportionate and robust information available.

14.9.4.2 The baseline will focus on the characteristics, health status and wider circumstances of the general population and relevant vulnerable or disadvantaged groups. The baseline will be used to:

- Characterise the demographic, socio-economic and health profile of the Site-Specific (Community Area) and Local Health Study Areas;
- Identify geographical variation in health outcomes, deprivation and the wider determinants of health;
- Identify population groups that may be more susceptible to a particular health pathway or less able to avoid, adapt or recover from change;
- Establish relevant local, regional and national comparators;
- Identify existing environmental and socio-economic pressures that may influence population sensitivity;
- Understand relevant health priorities and inequalities; and
- Establish a future baseline against which effects of the Proposed Development will be assessed.

14.9.4.3 The baseline will draw on the data sources presented in **Section 14.5**, including demographic and socio-economic data, deprivation indices, public health profiles,

information on health behaviours and outcomes, population projections, local health and wellbeing evidence, and the findings of relevant technical assessments.

14.9.4.4 Baseline information will be considered at the most appropriate available geographical scale. Where reliably available, community-level data for the Site-Specific Health Study Area will be collected at the Output Area level to identify local variation within the Site-Specific Health Study Area. Lower Layer Super Output Areas (LSOAs) and Middle Layer Super Output Areas (MSOAs) will form part of the Site-Specific Health Study Area where data at the more granular Output Area level is unavailable. Local authority-level information will be used where indicators are not available at smaller areas or where the relevant health pathway operates across a wider geography. The limitations associated with data geography, reporting periods, statistical reliability and differences between datasets will be acknowledged.

14.9.4.5 Relevant baseline information from other EIA chapters will be used to characterise the environmental, social and economic conditions that influence population health. This will include information relating to noise, air quality, transport and accessibility, open space, community infrastructure, employment, housing and flood risk. Where those chapters apply different study areas or assessment geographies, their findings will be interpreted in relation to the populations affected and the relevant health pathway. The Health assessment will not duplicate the underlying technical baseline or imply that topic-specific data have been calculated for the defined health study areas.

14.9.4.6 The future baseline will take account of reasonably foreseeable demographic, environmental, social and economic change in the absence of the Proposed Development. This will include relevant population projections, trend analysis, committed development and changes identified through the technical assessments.

14.9.5 Identifying Receptors

14.9.5.1 The Health assessment will be undertaken at a population level. Consistent with ISEP guidance, population groups will be treated as the principal sensitive receptors, with the assessment considering potential changes in their physical health, mental health and social wellbeing.

14.9.5.2 The relevant receptor population will be identified separately for each scoped-in health pathway, having regard to the potentially vulnerable or disadvantaged receptor groups identified in **Section 14.6.7**. This is necessary because the population affected by changes in air quality or noise may differ from the population affected by housing, access to services, employment, open space or healthcare demand. Receptor populations may therefore be defined by geographical location, exposure, use of an affected service or resource, employment, travel behaviour, dependency or another characteristic relevant to the pathway under consideration. The receptor groups identified in **Section 14.6.7**

provide an initial framework and will be reviewed and refined as the design, baseline evidence, technical assessments and stakeholder engagement progress.

14.9.5.3 Facilities, services, homes and environmental assets will generally be considered as part of the pathway through which the Proposed Development may affect population health, rather than as individual receptors in the Health assessment. Direct effects on community facilities and assets, including their loss, relocation, reprovision, accessibility or operation, will be assessed in the **Chapter 10: Community** or other relevant technical chapter. The Health assessment will draw on those findings where there is a credible pathway to effects on physical health, mental wellbeing or health inequalities. Individual facilities will only be considered where they are materially affected or indicate the presence of a particularly sensitive population.

14.9.5.4 For healthcare facilities, **Chapter 10: Community** will assess direct effects on the facility or service asset. The Health assessment will consider the implications for service users, including access to care, continuity of treatment, service demand, capacity and resilience. Wider effects will be assessed at an appropriate service or catchment level where relevant, rather than through an exhaustive facility-by-facility assessment.

14.9.5.5 Other receptor groups, including workers, passengers and visitors, will be considered where a credible project-related health pathway is identified. Occupational matters adequately managed through health and safety requirements will not be duplicated, and increased passenger or workforce numbers alone will not be taken to represent an adverse health effect.

14.9.6 Significance Criteria

14.9.6.1 The significance of human health effects will be determined using the sensitivity of the affected population and the magnitude of change, supported by professional judgement. The assessment will apply the principles set out in the ISEP Guide to Determining Significance for Human Health in Environmental Impact Assessment and the project-wide significance framework presented in **Chapter 4: Approach to EIA.**

14.9.6.2 The assessment of significant effects is a function of receptor sensitivity and impact magnitude alongside the consideration of a wider range of contextual information, including:

- Scientific literature;
- Baseline conditions for the population;
- Consultation for the project;
- Health priorities in the jurisdiction;
- Regulatory health standards in the jurisdiction; and
- Health policy context in the jurisdiction.

14.9.6.3 The assessment of significance is informed by criteria and guidance set out in Determining Significance for Human Health in Environmental Impact Assessment (ISEP, 2022a).

14.9.6.4 Effects will be classified as Major, Moderate, Minor, Negligible or No Effect. Major and Moderate effects are significant in EIA terms. Minor, Negligible and No Effect conclusions are not significant.

14.9.6.5 The assessment of likely significant effects will first be undertaken with embedded design and good practice measures (primary and tertiary mitigation) in place. Where likely significant effects are identified, the effectiveness of any additional secondary mitigation will be assessed and a residual effect significance assigned. Residual effects will therefore reflect all committed or secured mitigation measures. Unsecured mitigation will not be considered in significance conclusions, although its potential influence may be described qualitatively. Where mitigation effectiveness is uncertain, no change to the reported residual effect will be assumed.

Receptor Sensitivity

14.9.6.6 The criteria used to determine receptor sensitivity are set out in **Table 14-9**. Judgment is based on most relevant criteria; it is likely that analysis may span multiple categories. Population or sub-population sensitivity may be driven by one or more criteria.

Table 14-9: Receptor Sensitivity (ISEP, 2022a).

Receptor Sensitivity	Criteria
High	High levels of deprivation (including pockets of deprivation); reliance on resources shared (between the population and the project) (e.g. of high reliance: few school places with few existing alternatives); existing wide inequalities between the most and least healthy; a community whose outlook is predominantly anxiety or concern; people who are prevented from undertaking daily activities; dependants; people with very poor health status; and/or people with a very low capacity to adapt
Medium	Moderate levels of deprivation; few alternatives to shared resources; existing widening inequalities between the most and least healthy; a community whose outlook is predominantly uncertainty with some concern; people who are highly limited from undertaking daily activities; people providing or requiring a lot of care; people with poor health status; and/or people with a limited capacity to adapt

Receptor Sensitivity	Criteria
Low	Low levels of deprivation; many alternatives to shared resources; existing narrowing inequalities between the most and least healthy; a community whose outlook is predominantly ambivalence with some concern; people who are slightly limited from undertaking daily activities; people providing or requiring some care; people with fair health status; and/or people with a high capacity to adapt
Very Low	Very low levels of deprivation; no shared resources; existing narrow inequalities between the most and least healthy; a community whose outlook is predominantly support with some concern; people who are not limited from undertaking daily activities; people who are independent (not a carer or dependant); people with good health status; and/or people with a very high capacity to adapt.

Magnitude of Change

14.9.6.7 The criteria used to determine impact magnitude are set out in **Table 14-10**. Judgment is based on most relevant criteria; it is likely that analysis may span multiple categories and magnitude of change may be driven by one or more criteria.

Table 14-10: Impact Magnitude Criteria (ISEP, 2022a)

Impact Magnitude	**Criteria**
High	High exposure or scale; long-term duration; continuous frequency; severity predominantly related to mortality or changes in morbidity (physical or mental health) for very severe illness/injury outcomes; majority of population affected; permanent change; substantial service quality implications
Medium	Low exposure or medium scale; medium-term duration; frequent events; severity predominantly related to moderate changes in morbidity or major change in quality-of-life; large minority of population affected; gradual reversal; small service quality implications
Low	Very low exposure or small scale; short-term duration; occasional events; severity predominantly related to minor change in morbidity or moderate change in quality-of-life; small minority of population affected; rapid reversal; slight service quality implications

Impact Magnitude	Criteria
Negligible	Negligible exposure or scale; very short-term duration; one-off frequency; severity predominantly relates to a minor change in quality-of-life; very few people affected; immediate reversal once activity complete; no service quality implication

Determining Effect Significance

14.9.6.8 The indicative matrix used to determine effect significance is set out in **Table 14-11**. The effects are selected for each relevant category using the professional judgement of suitably qualified health impact assessment practitioners, informed by established EIA practice, industry guidance and the reasoning criteria described in **Table 14-12.**.

Table 14-11: Effect Significance Matrix

		Sensitivity			
		High	Medium	Low	Very Low
Magnitude	High	Major	Major/moderate	Moderate/minor	Minor/negligible
	Medium	Major/moderate	Moderate	Minor	Minor/negligible
	Low	Moderate/minor	Minor	Minor	Negligible
	Negligible	Minor/negligible	Minor/negligible	Negligible	Negligible

14.9.6.9 The following reasoning is also applied to determine a significance conclusion related to public health. Judgement is based on most relevant criteria; it is likely that analysis may span multiple categories. Following an assessment of sensitivity and magnitude, the significance of effect is driven by the criteria in **Table 14-12**.

Table 14-12: Significance Criteria Reasoning (ISEP, 2022b)

Category /Level	Reasoning Criteria
Major (Significant)	This is significant for public health because (select as appropriate): • Changes, due to the project, have a substantial effect on the ability to deliver current health policy and/or the ability to narrow health inequalities, including as evidenced by referencing relevant policy and effect size (magnitude and sensitivity levels), and as informed

Category /Level	Reasoning Criteria
	by consultation themes among stakeholders, particularly public health stakeholders, that show consensus on the importance of the effect. • Change, due to the project, could result in a regulatory threshold or statutory standard being crossed (if applicable). • There is likely to be a substantial change in the health baseline of the population, including as evidenced by the effect size and scientific literature showing there is a causal relationship between changes that would result from the project and changes to health outcomes. • In addition, health priorities for the relevant study area are of specific relevance to the determinant of health or population group affected by the project.
Moderate (Significant)	This is significant for public health because (select as appropriate): • Changes, due to the project, have an influential effect on the ability to deliver current health policy and/or the ability to narrow health inequalities, including as evidenced by referencing relevant policy and effect size, and as informed by consultation themes among stakeholders, which may show mixed views. • Change, due to the project, could result in a regulatory threshold or statutory standard being approached (if applicable). • There is likely to be a small change in the health baseline of the population, including as evidenced by the effect size and scientific literature showing there is a clear relationship between changes that would result from the project and changes to health outcomes. • In addition, health priorities for the relevant study area are of general relevance to the determinant of health or population group affected by the project.
Minor (Not Significant)	This is not significant for public health because (select as appropriate): • Changes, due to the project, have a marginal effect on the ability to deliver current health policy and/or the ability to narrow health inequalities, including as evidenced by effect size of limited policy influence and/or that no relevant consultation themes emerge among stakeholders. • Change, due to the project, would be well within a regulatory threshold or statutory standard (if applicable); but could result in a guideline being crossed (if applicable). • There is likely to be a slight change in the health baseline of the population, including as evidenced by the effect size and/or scientific literature showing there is only a suggestive relationship between changes that would result from the project and changes to health outcomes.

Category /Level	Reasoning Criteria
	• In addition, health priorities for the relevant study area are of low relevance to the determinant of health or population group affected by the project.
Negligible (Not Significant)	This is not significant for public health because (select as appropriate): • Changes, due to the project, are not related to the ability to deliver current health policy and/or the ability to narrow health inequalities, including as evidenced by effect size or lack of relevant policy, and as informed by the project having no responses on this issue among stakeholders. • Change, due to the project, would not affect a regulatory threshold, statutory standard or guideline (if applicable). • There is likely to be a very limited change in the health baseline of the population, including as evidenced by the effect size and/or scientific literature showing there is an unsupported relationship between changes that would result from the project and changes to health outcomes. • In addition, health priorities for the relevant study area are not relevant to the determinant of health or population group affected by the project.

14.9.7 Additional Baseline Information Required

14.9.7.1 As outlined in **Section 14.4**, the Study Area may be refined as the Proposed Development design evolves. Should any changes occur, the requirement for additional health baseline data will be reviewed and updated as appropriate.

14.9.7.2 The health baseline will also be updated prior to assessment, where relevant information is available. This may include updated demographic data, new strategies and publications relating to health and wellbeing within the Study Area, and the latest information on health outcomes, including mortality and morbidity indicators.

14.9.8 Cumulative Effects

14.9.9 Potential cumulative human health effects may arise where the construction or operation of the Proposed Development overlaps spatially or temporally with existing and/or approved developments and affects the same population or vulnerable group.

14.9.10 During construction, relevant cumulative pathways may include air quality, noise and vibration, construction traffic, access and severance, housing and workforce accommodation, open space and recreation, access to services and facilities, community identity and social participation, employment and income, education

and training, flooding, land quality and public understanding of risk. Cumulative effects may be particularly relevant where communities experience concurrent or successive construction activity, prolonged environmental disturbance, repeated access disruption or several changes to community resources and social conditions.

14.9.11 During operation, relevant cumulative pathways may include air quality, noise, transport and accessibility, housing, employment and income, education and training, open space and recreation, community facilities and social networks, health and social care services, climate resilience, flooding and public understanding of risk. The relevant cumulative pathway and affected population will be determined using the findings of the corresponding technical assessments.

14.9.12 Cumulative effects will be considered where another development:

- Affects the same population or vulnerable or disadvantaged group;
- Contributes to a change in the same health determinant;
- Creates repeated, concurrent or successive exposure;
- Extends the duration or geographical distribution of an effect;
- Places additional demand on the same service, facility or community resource; or
- Reduces the capacity of an affected population to avoid, adapt to or recover from change.

14.9.13 The assessment will be informed by the project-wide cumulative development list and screening process set out in **Chapter 24: Approach to Cumulative and In-Combination Effects**. The Health assessment will draw on the cumulative findings of the relevant technical chapters and will assess their implications for population health, mental wellbeing and health inequalities without duplicating the underlying technical assessment.

14.9.14 In-Combination Effects

14.9.14.1 The Health assessment will consider in-combination effects arising where two or more environmental, social, economic or institutional changes associated with the proposed development affect the same population or sub-population. These effects may occur concurrently, sequentially or through linked pathways and may result in a greater or different health effect than consideration of each determinant in isolation.

14.9.14.2 Relevant in-combination pathways may include:

- Noise and air quality changes affecting the same communities;
- Traffic disruption, severance and reduced access to healthcare, education, employment, community facilities or open space;
- Displacement combined with loss of social support, altered access to services and changes to community identity;
- Construction disturbance combined with uncertainty, perceived risk and prolonged disruption;

- Environmental effects combined with housing, employment or income pressures; and
- Operational noise, air quality, transport and accessibility changes affecting communities already experiencing environmental or socio-economic disadvantage.

14.9.15 The assessment will use the findings of relevant technical chapters to identify common receptor populations, overlapping zones of influence and the timing and duration of individual effects. The Health assessment will integrate these findings at population level and will not replicate the technical modelling or significance conclusions reported elsewhere.

14.9.16 In-combination effects will be considered where:

- Multiple pathways affect the same population;
- The pathways overlap spatially or temporally;
- The combined exposure could influence physical health, mental wellbeing, social wellbeing or health inequalities; and
- The combined effect could be materially different from the effects assessed separately.

14.9.17 The assessment will distinguish between simple co-occurrence and a credible combined health pathway. The presence of several effects within the same geographical area will not, in isolation, establish a significant in-combination health effect.

14.9.18 The significance of in-combination effects will be determined using the criteria set out in this section. The assessment will consider the overall nature, scale, duration and distribution of the combined change, population sensitivity, existing cumulative burdens, capacity to adapt and the extent to which mitigation addresses the combined pathway.

14.9.19 Where relevant, Community Impact Reports, or an equivalent locally specific reporting mechanism, will be used to present the determinants, cumulative and in-combination effects, mitigation and monitoring applicable to materially affected communities. This will support consideration of the overall experience of individual communities where effects arising through several technical disciplines cannot be adequately understood through separate topic assessments alone.

14.9.20 Limitations and Assumptions

14.9.20.1 The Health assessment will be based on the best available evidence at the time of preparation, including publicly available demographic, socio-economic and health datasets, project information, outputs from other EIA assessments, stakeholder engagement and professional judgement. The sources and reporting periods used to inform the baseline are identified in **Section 14.5** and **Appendix 14.2**.

14.9.20.2 Baseline information will be considered at the most appropriate and reliable geographical scale available. Data reported for local authorities, LSOAs or MSOAs

may not identify variation within individual Community Areas, while data for small populations may be unavailable, suppressed or statistically unstable. Where sufficiently robust local data are unavailable, wider-area information and relevant comparators will be used to provide context. The limitations of applying these data to smaller population groups will be acknowledged.

14.9.20.3 The baseline provides a population-level profile and will not identify every individual characteristic, household circumstance or health condition within the study areas. Population groups will not be assumed to be homogeneous. Available evidence on local variation, deprivation, existing health inequalities, environmental exposure and dependency on services will be used to identify groups that may experience greater sensitivity or reduced capacity to adapt.

14.9.20.4 Healthcare, education, community and other facilities will be identified proportionately where they indicate the presence of sensitive populations or are relevant to a credible health pathway. An exhaustive inventory or individual assessment of all facilities within the health study areas is not proposed. Direct effects on facilities and assets will principally be assessed in **Chapter 10: Community** or relevant technical chapter. The Health assessment will consider the resulting implications for affected populations, including access, continuity of service, demand, capacity and resilience where relevant.

14.9.20.5 The Health assessment will rely on outputs from other EIA chapters for the technical characterisation of changes in environmental, social and economic determinants of health. These chapters may apply different study areas, assessment years, scenarios and methodologies. Their findings will be interpreted in relation to the populations and health pathways affected and will not be presented as though calculated specifically for the health study areas. The Health assessment will not duplicate the modelling or technical assessment undertaken elsewhere in the ES.

14.9.20.6 Aspects of the Proposed Development remain subject to design development, including the detailed construction programme, phasing, workforce requirements, surface access arrangements and operational parameters. The assessment will therefore be based on the scheme description and reasonable worst-case parameters available at the relevant stage. The study areas, receptor populations and assessment assumptions will be reviewed as the design and supporting technical assessments develop.

14.9.20.7 The future baseline will be informed by available population projections, trend data, committed development and the assumptions adopted by relevant technical assessments. Future demographic, health, service and environmental conditions cannot be predicted with certainty, particularly over an extended construction and operational period. Where uncertainty could materially affect the assessment conclusion, the assumptions applied will be explained and sensitivity analysis undertaken where proportionate and supported by the available evidence.

14.9.20.8 The assessment will identify credible source-pathway-receptor relationships and will not seek to quantify changes in health outcomes where the evidence or project information does not support reliable estimation. Quantitative evidence will be used where available and appropriate, including exposure modelling, population estimates, workforce and passenger forecasts, accessibility measures and service data. Where quantitative assessment is not practicable, a structured qualitative assessment will be undertaken.

14.9.20.9 Occupational health and safety matters that are appropriately managed through statutory requirements and established workplace controls will not be duplicated within the Health assessment. Workers will nevertheless be considered where there is a credible population health pathway not fully addressed through occupational controls, or where workforce-related changes may affect surrounding communities, housing, transport or healthcare services.

14.9.20.10 Passengers and visitors will be considered as transient populations where there is a credible project-related change in environmental exposure, accessibility, thermal conditions, healthcare demand or another relevant determinant. Increased passenger or workforce numbers will not, in isolation, be assumed to result in an adverse health effect.

Consideration of Health Outcomes

14.9.20.11 The Health assessment will be structured around changes to the environmental, social, economic and institutional determinants of health. Physical health, mental health and wellbeing, and non-communicable diseases are outcomes that may be influenced by several determinants. They will therefore be considered within each relevant determinant assessment rather than assessed as separate and potentially duplicative impact pathways.

14.9.20.12 For each scoped-in determinant, the assessment will identify the relevant health outcomes where supported by a credible source-pathway-receptor relationship. It will consider the nature, duration and distribution of the effect, population sensitivity, existing health inequalities and, where relevant, interactions between determinants affecting the same population.

14.9.20.13 Separate conclusions will be provided for the general population and relevant vulnerable or disadvantaged groups where differences in exposure, susceptibility, dependency or ability to adapt could materially affect the significance conclusion. The assessment will not attempt to predict health outcomes for particular individuals.

14.9.20.14 This approach ensures that non-communicable diseases, physical health, mental health and social wellbeing remain integral to the assessment without being treated as independent effects disconnected from the project-related changes through which they may arise. The assessment will be proportionate to the strength of the pathway and available evidence and will be informed by quantitative findings from other technical chapters where appropriate.

14.10 Proposed Approach to Mitigation

14.10.1.1 The Health assessment will identify measures to avoid or reduce adverse effects on population health and, where appropriate, enhance beneficial effects. Mitigation will be developed iteratively alongside the design, informed by the Health assessment, relevant technical assessments and stakeholder engagement. The mitigation hierarchy will be applied, prioritising avoidance through design and reduction at source before management, remedial or compensatory measures are considered.

14.10.1.2 In accordance with the mitigation hierarchy, priority will be given to avoiding effects through design and reducing effects at source. Where this is not sufficient, additional management, remedial or compensatory measures will be considered. In accordance with the recently published draft HENPS and accompanying Health Impact Analysis (HIAn), a range of measures have been identified that may be relevant to health, including support for affected residents, protection or reprovision of community infrastructure, management of environmental effects, improved accessibility, community engagement and measures supporting employment and skills. The measures potentially relevant to the Proposed Development are summarised in **Table 14-13**.

Table 14-13: Indicative Health-Relevant Mitigation Measures

Topic	Indicative Mitigation
Construction environment	The Code of Construction Practice (CoCP), and Construction Environmental Management Plan (CEMP), including controls relating to construction activities, environmental emissions, vehicle types, routes and operating hours.
Construction traffic and access	A Construction Traffic Management Plan (CTMP) will be developed for construction traffic management, temporary traffic management, protection of walking, wheeling and cycling routes, and measures to maintain access to homes, healthcare, education and community facilities. A Construction Logistics Hub, temporary railhead and transport of materials by rail may also be considered to reduce HGV movements where practicable.
Housing, displacement and community facilities	A Property and Compensation Policy, relocation support, consideration of an appropriate wider property offer, and timely reprovision of displaced community facilities and recreational assets. Additional support may be required for residents with particular relocation or support needs.

Topic	Indicative Mitigation
Community wellbeing and engagement	A community engagement plan, including accessible information, liaison and complaints procedures. Community compensation may also be considered where significant residual community effects cannot be adequately avoided or reduced.
Noise and air quality	Design and management measures to minimise noise, pollutant emissions and population exposure, supported by monitoring where appropriate. Avoidance and reduction at source will be prioritised before insulation or other receptor-based measures. An Air Quality Positive approach will be considered where applicable.
Open space and green infrastructure	A Green Infrastructure Strategy addressing the reprovision of affected open space and recreational assets, maintenance of connections between spaces and delivery of accessible replacement provision.
Employment and skills	An Employment and Skills Strategy addressing apprenticeships, local employment, training, supply-chain opportunities and access to benefits for groups experiencing disadvantage.
Operational access and emissions	Surface access measures supporting relevant public transport and sustainable travel objectives, together with vehicle charging infrastructure, cleaner operational vehicles and incentives for cleaner aircraft and operating practices where applicable.
Built environment and climate resilience	Appropriate sustainability standards for new buildings, low or zero-emission energy plant where practicable, and design measures addressing thermal comfort, climate resilience, drainage and flood risk.
Pests and public health controls	Pest surveillance and control arrangements, together with relevant environmental health, healthcare, port health, emergency planning and regulatory controls.
Healthcare access and capacity	Engagement with relevant health bodies and consideration of effects on healthcare access, service continuity, emergency response, demand, capacity and resilience where a material project-related pathway is identified.

14.10.1.3 The CoCP, CEMP and other topic-specific plans and strategies will provide the principal mechanisms for managing construction-related effects relevant to human health. These documents will set out the measures, controls, monitoring and community liaison arrangements required to manage relevant environmental and public health pathways. The Health assessment will clearly identify the measures relied upon in reaching its conclusions and provide appropriate cross-references to the documents through which they will be delivered. This responds to the Inspectorate's expectation that mitigation should comprise specific and identifiable measures, rather than reliance on stakeholder engagement alone.

14.10.1.4 At this scoping stage, these measures are indicative and do not represent confirmed commitments. The need for mitigation, its geographical application and the means by which it would be delivered and secured will be defined through the ES.

14.10.1.5 Where mitigation is identified through another EIA chapter, the Health assessment will consider whether it adequately addresses the relevant population health pathway, including effects on vulnerable or disadvantaged groups. Measures will be cross-referenced rather than duplicated. Residual health effects will be assessed taking account of mitigation that is sufficiently defined and capable of being secured.

14.10.1.6 In addition to the environmental topics that form part of the ES, a range of supplementary assessments and mitigation strategies will be prepared, which will inform the assessment of effects for the community topic. Key documents associated with the community assessment that will form part of the DCO submission include:

- **Equality Impact Assessment (EqIA):** findings on the differential and disproportionate effects the Proposed Development is anticipated to have on groups of people with protected characteristics as defined by the Equality Act 2010. The EqIA and the community assessment will be prepared on a consistent evidence base, and the severance and access findings in particular will read across between them.
- **Temporary Workforce Accommodation Strategy (TWAS):** the types and quantum of temporary accommodation that might be required by non-home-based construction workers during the construction phase.
- **CoCP:** the overarching framework document submitted as part of the DCO application. It sets out the standards, principles and commitments that the undertaker will follow during construction including the following:
    - Establishes environmental management requirements.
    - Sets limits and controls for matters such as noise, vibration, dust, traffic, lighting, ecology and community impacts.
    - Describes consultation and complaint-handling procedures.
    - Defines roles, responsibilities and governance arrangements.
    - Provides the basis against which detailed construction management plans will subsequently be prepared.

- **CEMP:** a more detailed, operations specific implementation document prepared ahead of construction, usually pursuant to a DCO requirement. Including the following:
  - Demonstrates how the contractor will comply with the CoCP;
  - Identifies specific environmental risks for a particular work area or phase;
  - Sets out detailed mitigation measures, monitoring arrangements and reporting procedures;
  - Includes site layouts, working methods, emergency procedures and environmental controls; and
  - Is often approved by the relevant planning authority before works commence.
- **Travel Plans:** the measures through which the Proposed Development will promote safe, efficient and sustainable travel during construction and operation, as relevant.
- **Economic Growth Strategy:** the broader strategic document that explains how the project will maximise economic benefits for the local, regional and national economy. While employment opportunities will be a key topic it will also include details on the following:
  - Business/economic baseline conditions;
  - Overarching visions and strategy;
  - Business growth and investment opportunities;
  - Support for small businesses and local enterprises; and
  - Wider economic regeneration opportunities/impacts.
- **The Employment and Skills Strategy:** a more focused delivery document that explains how people will access the jobs and skills opportunities created by the project. It typically covers:
  - Apprenticeships;
  - Graduate and trainee programmes;
  - Work experience placements;
  - Local labour initiatives;
  - Skills academies and training partnerships;
  - Engagement with colleges, universities and schools;
  - Diversity and inclusion targets;
  - Recruitment pathways for under-represented groups; and
  - Monitoring and reporting of employment outcomes.
- **Surface Access Strategy:** developed to manage the effects of construction on roads, public rights of way (PRoW), and other routes that communities rely upon to reach key services and facilities. It will set out how temporary closures and diversions are identified, sequenced and communicated, and how suitable alternative routes will be provided and maintained where temporary restriction or severance is unavoidable. Severance is the effect of a barrier, physical or perceived, that makes an existing journey harder, longer or less attractive, with the result that some people make it less often or not at all. It falls disproportionately on those without access to a car, and on older people,

disabled people and children, which is why it is treated as a distinct matter rather than folded into traffic effects.

- **Mitigation Route Map and the Mitigation and Monitoring Plan:** an overarching framework for the environmental mitigation proposed as part of the Proposed Development, drawing together the measures identified through the EIA process to avoid, prevent, reduce or, where necessary, offset likely significant adverse effects.

14.11 Summary

14.11.1.1 **Table 14-14** summarises the elements scoped into and out of the Health assessment. The detailed source-pathway-receptor relationships, assessment phases and receptor populations are presented in **Sections 14.7 and 14.9**. Matters scoped out as standalone health determinants may remain relevant as outcomes or contributing pathways within another scoped-in determinant.

Table 14-14: Elements scoped in/out of Health assessment

Human Determinant	Scoped In Elements	Scoped Out Elements
Health-Related Behaviours	Physical activity outcomes will be considered through the relevant open space, recreation, active travel and accessibility pathways.	**Construction and operation:** physical activity as a standalone determinant; risk-taking behaviour; and diet and nutrition.
Social Environment	**Construction and operation:** housing, relocation and displacement; open space, leisure, play and blue/green infrastructure; transport modes, access and connections; community safety; community identity, culture, resilience and influence; and social participation, interaction and support.	Wider societal infrastructure and resources as a standalone health determinant. Direct effects on community facilities and public services will be assessed in **Chapter 10: Community**, with relevant health implications considered through the scoped-in Human Health pathways.

Human Determinant	Scoped In Elements	Scoped Out Elements
Economic Environment	**Construction and operation:** education and training; employment and income, including access to opportunities, job quality, skills, business effects and the distribution of benefits.	No separate elements scoped out. Detailed economic and labour-market effects will be assessed in **Chapter 11: Economics and Employment** and interpreted for population health where relevant.
Bio-Physical Environment	**Construction and operation:** climate change and adaptation; air quality, including ultrafine particles; and noise and vibration. **Construction only:** land quality where disturbance creates a credible population exposure pathway.	Water quality and availability as a standalone health pathway; direct effects from electromagnetic fields; and operational land-quality effects. These matters will be addressed through the relevant technical assessments, regulatory controls or Public Understanding of Risk, where applicable.
Institutional and Built Environment	**Construction and operation:** health and social care services; flooding; and Public Understanding of Risk. **Construction only:** communicable disease associated with workforce concentration and movement, and pest control. **Operation:** capacity and resilience of Port Health and wider public-health arrangements.	Utilities disruption, hazardous waste, routine aviation-fuel storage and handling, and ionising radiation as standalone health pathways. Operational pest control and routine communicable-disease transmission are also scoped out of separate assessment. Relevant technical risks will be addressed through other ES chapters and regulatory controls, while associated public concern remains within Public Understanding of Risk.

Human Determinant	Scoped In Elements	Scoped Out Elements
Cumulative and In-Combination Effects	**Construction and operation:** cumulative effects where the Proposed Development and existing and/or approved developments affect the same population through overlapping or successive changes in scoped-in determinants. In-combination effects from multiple Proposed Development pathways affecting the same population will also be assessed.	Developments or pathways without a credible overlap in affected population, health pathway and timing.
Decommissioning	Foreseeable removal or replacement of components with a defined design life will be considered where a credible population-health pathway is identified.	A separate project-wide decommissioning assessment is not proposed. The Proposed Development is intended to be permanent and no decommissioning programme or parameters have been defined.

Environmental Impact Assessment Scoping Report

Chapter 15

Landscape, Townscape and Visual Impact

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15 Landscape, Townscape and Visual

15.1 Introduction

15.1.1.1 This Chapter of the Environmental Impact Assessment (EIA) Scoping Report has been prepared by Stantec UK Ltd and sets out the proposed approach and methodology for undertaking a Landscape, Townscape and Visual Amenity Assessment (LTVIA) for the Proposed Development which will be reported in the Environmental Statement (ES).

15.1.1.2 An overview of the landscape, townscape and visual baseline data that will be used within the LTVIA ES Chapter is provided, which includes relevant landscape designations and published sources of landscape character. An overview of relevant policies and guidance is also included.

15.1.1.3 Proposed view locations for the visual assessment and reasoning for their selection are also given. The scope of the landscape, townscape and visual impact assessment is outlined, and potential likely significant effects identified, along with an overview of the proposed approach to mitigation.

15.1.1.4 A brief description of the methodology that will be used to undertake the LTVIA for the ES Chapter is also included, with a detailed methodology provided within **Appendix 15.1: Landscape, Townscape and Visual Assessment Methodology**.

15.1.1.5 The following Chapter should also be read in conjunction with the LTVIA due to the interactions between topics:

- **Chapter 6: Biodiversity**: in relation to effects on biodiversity and habitats;
- **Chapter 12: Recreation**: in relation to effects on recreational resources and recreational users;
- **Chapter 13: Historic Environment**: in terms of the heritage aspect of landscape and townscape;
- **Chapter 20: Noise and Vibration**: in terms of the noise aspect of tranquility; and
- **Chapter 23: Lighting**: in terms of the effect of lighting beyond the influence of the night-time landscape and townscape character.

15.2 Policy, Legislation and Guidance

15.2.1.1 This section identifies the relevant topic specific policies that have informed the scope and, where relevant, the Study Area of the assessment presented in **Chapter 15**. Further information on the policies relevant to the EIA and their status is set out in **Section 1.9** which should be read in conjunction with this Chapter.

Table 15-1: Policy and Legislation Relevant to the Landscape, Townscape and Visual Assessment

Relevant Policy	Relevance to assessment
Policy – National	
Airports National Policy Statement (ANPS) (2018 – under review)1	National planning policy in relation to potential landscape, townscape and visual impacts arising from airport developments – in particular sections 5.213-5.225 and sections 4.30 and 4.35 in relation to design and mitigation.
Proposed draft revision to the Airports National Policy Statement - To be known as the Heathrow Expansion National Policy Statement (2026)[2]	Draft National planning policy in relation to potential landscape, townscape and visual impacts arising from airport developments – in particular sections 5.308-5.326 and sections 5.315 in relation to mitigation.
National Policy Statement for National Networks (NPS) (2024)[3]	National planning policy in relation to potential landscape, townscape and visual effects arising from alterations to the road and rail network, in particular section 4.12 in relation to cumulative impacts; 4.27 to 4.32 in respect of good design; 5.117 to 5.125 in relation to the consideration of lighting impacts; section 5.160 to 5.178 in relation to landscape, townscape and visual impacts; and section 5.179 to 5.203 regarding open space, green infrastructure and green belt use.
National Planning Policy Framework (NPPF) (2026)[4]	National planning policy in relation to development, in particular section 13: Protecting Green Belt land, section 14: Achieving well-designed places, and section 19: Conserving and enhancing the natural environment.
Policy – Regional	

[1] Department for Transport (2018). Airports National Policy Statement. Available at: Airports National Policy Statement - GOV.UK

[2] Department for Transport (2026) Proposed draft revision to the Airports National Policy Statement: to be known as the Heathrow Expansion National Policy Statement. Available at: draft ANPS - GOV.UK(Accessed: 29 June 2026).

[3] Department for Transport (2024), National Networks Policy Statement. Available at: National Networks National Policy Statement - GOV.UK

[4] Ministry of Housing, Communities and Local Government, (2026), National Planning Policy Framework. Available at: National_Planning_Policy_Framework.pdf

Relevant Policy	Relevance to assessment
The London Plan 2021[5]	Greater London policy in relation to development, in particular Policy G1 – G7 in relation to Green Infrastructure and Landscape, Policy D1-D4, in relation to Design and Townscape and Policy HC4 London View Management Framework.
Draft London Plan 2026[6]	Draft polices in relation to development, in particular policies under Chapter 2 Making Best Use of Land and Achieving Growth Policy MBUL6-MBUL9, Chapter 5 Creating a Greener, Healthier and Resilient City Policy GHR4-CHR9, and Chapter 6 Place Visions and Place-based Approaches Policy PV6-8.
Hillingdon Local Plan, A vision for 2026 (2012)[7]	The Hillingdon Local Plan in relation to the development and landscape and townscape matters, particularly in Policy BE1: Built Environment, Policy DMAV2 Heathrow Airport, Policy EM2: Green Belt, Metropolitan Open Land and Green Chains and Policy EM4: Open Space and Informal Recreation.
London Borough of Hounslow Local Plan 2015-2030 (2015)[8]	The Hounslow Local Plan in relation to the development and landscape and townscape matters, particularly in Policy CC1 Context and Character, Policy CC2 Urban Design and Architecture, Policy GB1 Green Belt and Metropolitan Open Land, GB2 Open space, Policy GB4 The Green Infrastructure Network and EC3 Heathrow Airport.

[5] Greater London Authority (2021) The London Plan 2021. London: Greater London Authority. Available at: https://www.london.gov.uk/programmes-strategies/planning/london-plan/london-plan-2021 (Accessed: 21 September 2026).
[6] Greater London Authority (2026) Draft London Plan. London: Greater London Authority. Available at: Draft London Plan (Accessed: 21 September 2026).
[7] London Borough of Hillingdon (2012) *Hillingdon Local Plan: Part 1 Strategic Policies (Adopted November 2012).* Uxbridge: London Borough of Hillingdon. Available at: https://pre.hillingdon.gov.uk/downloads/file/2206/local-plan-part-1-strategic-policies (Accessed: 13 August 2026).
[8] London Borough of Hounslow (2015) *Local Plan 2015-2030.* Hounslow: London Borough of Hounslow. Available at: https://www.hounslow.gov.uk/downloads/file/13227/hounslow-local-plan-part-1-direct (Accessed: 13 August 2026).

Relevant Policy	Relevance to assessment
Hounslow Local Plan 2020–2041: Proposed Submission Version(Regulation 19)[9]	The draft Hounslow Local Plan in relation to the development, landscape and townscape matters, particularly in policy CC1-CC4 context and character, and policy GB2, GB4, GB5 and GB7 about Green and Blue Infrastructure.
Runnymede 2030 Local Plan (2020)[10]	The Runneymede Local Plan in relation to the development and landscape and townscape matters, particularly in Policy SD7: Sustainable Design and Policy EE1: Townscape and Landscape Quality.
Spelthorne Local Plan 2024-2039/40 (2026)[11]	The Spelthorne Local Plan in relation to the development and landscape and townscape matters, particularly in Policy PS2 Designing Places and Spaces, Policy PS3: Heritage, Conservation and Landscape, Policy SP5: Colne Valley Regional Park, Policy SP6: River Thames and its Tributaries, Policy SP7: Heathrow Airport and Policy E1: Green and Blue Infrastructure.
Draft Local Plan for Buckinghamshire 2024–2045 (2026)[12]	The Draft Buckinghamshire Local Plan Policies in relation to the development and landscape and townscape matters, particularly in policy NE19 National Landscapes and their Setting, NE20 Landscape Character and Visual Amenity, NE7 Green Infrastructure, N9 Trees, Ancient and Veteran Trees, Woodlands and Orchards, NE16 Protection of the Green Belt and BE5 Design of Developments.

[9] London Borough of Hounslow (2024) Hounslow Local Plan 2020-2041: Proposed Submission Version (Regulation 19). July 2024. London: London Borough of Hounslow. Available at: https://www.hounslow.gov.uk/downloads/file/13942/hounslow-local-plan-2020-2041-proposed-submission-version (Accessed: 28 September 2026).
[10] Runnymede Borough Council (2020) *Runnymede 2030 Local Plan (Adopted).* Addlestone: Runnymede Borough Council. Available at: https://www.runnymede.gov.uk/downloads/file/781/adopted-2030-lp (Accessed: 13 August 2026)
[11] Spelthorne Borough Council (2026) *Spelthorne Local Plan 2024-2039/40.* Staines-upon-Thames: Spelthorne Borough Council. Available at: https://www.spelthorne.gov.uk/sites/default/files/2026-03/Spelthorne%20Local%20Plan%202024-2039-40%20%28March%202026%29_0.pdf (Accessed: 13 August 2026).
[12] Buckinghamshire Council (2026) Draft Local Plan for Buckinghamshire 2024–2045. Aylesbury: Buckinghamshire Council. Available at: Draft Local Plan for Buckinghamshire 2024–2045 (Accessed: 21 September 2026).

Relevant Policy	Relevance to assessment
Core Strategy 2006–2026 Development Plan Document. Slough Local Development Framework[13]	The Core Strategy of Slough in relation to the development, landscape and townscape matters, particularly in Core Policy 1 Spatial Strategy, Core policy 2 Green Belt and Open Spaces.
Royal Borough of Windsor and Maidenhead (2022) Borough Local Plan 2013–2033 [14]	Royal Borough of Windsor and Maidenhead Local Plan in relation to the development, landscape and townscape matters, particularly in Quality of Place (Policy QP1-QP5), Natural Resources (NR2-NR4), Infrastructure (Policy IF3-IF5).
Ealing Development Strategy 2026[15]	Ealing Development Strategy in relation to the development and landscape and townscape matters, particularly in Policy 1 Spatial Vision for Ealing 2026, Policy 1.2 Delivery of the Vision, Policy 5 (5.1-5.5) policies on protecting and Enhancing Ealing's Green and Open Spaces.
Richmond upon Thames Local Plan: 'The Best for Our Borough' (2024–2039)[16]	Richmond upon Thames Local Plan in relation to the development and landscape and townscape matters, particularly in Policies on Strategic landscape and green infrastructure (policy 34-40 and 42) and Policies in Design and town scape (Policy 28, 31 and 44).

Table 15-2: Legislation Relevant to the Landscape, Townscape and Visual Assessment

Relevant Legislation	Relevance to Assessment
Legislation - International	

[13] Slough Borough Council (2008) Core Strategy 2006–2026 Development Plan Document. Slough Local Development Framework. Adopted 16 December 2008. Slough: Slough Borough Council. Available at: https://www.slough.gov.uk/downloads/file/2273/development-plan-core-strategy-2006-2026 (Accessed: 21 September 2026).
[14] Royal Borough of Windsor and Maidenhead (2022) Borough Local Plan 2013–2033. Adopted 8 February 2022. Windsor: Royal Borough of Windsor and Maidenhead. Available at: https://www.rbwm.gov.uk (Accessed: 21 September 2026).
[15] London Borough of Ealing (2012) Ealing's Development (Core) Strategy 2026: Development Plan Document. Adopted 3 April 2012. London: London Borough of Ealing.
[16] London Borough of Richmond upon Thames (2025) Richmond upon Thames Local Plan: 'The Best for Our Borough' (2024–2039). Adopted 7 October 2025. London: London Borough of Richmond upon Thames.

Relevant Legislation	Relevance to Assessment
The European Landscape Convention (2000)[17]	International treaty dedicated to the protection, management and planning of all landscapes in Europe.
EIA Directive (2011, amended 2014)[18]	The Directive requires an assessment of effects (and consideration of significance) on landscape and population and human health (which includes visual amenity).
Legislation - National	
EIA Regulations (England/Scotland/Wales) – Infrastructure Planning (Environmental Impact Assessment) Regulations 2017[19]	Requires assessment of likely significant effects on landscape, townscape and visual receptors and should include mitigation and residual effects.

15.2.1.2 This Chapter is based on professional experience with the assessment primarily guided by the Landscape Institute / Institute of Environmental Management and Assessment 'Guidelines for Landscape and Visual Impact Assessment' (3rd Edition, 2013) (GLVIA3)[20] and the following guidance notes.

Table 15-3: Guidance relevant to the Landscape and Visual assessment

Relevant Guidance	Relevance to assessment
Guidance - National	
Guidelines for Landscape and Visual Impact Assessment' (3rd Edition, 2013) (GLVIA3) [21]	Provides the primary methodology for undertaking the LVIA. It establishes the approach to identifying landscape and visual receptors, assessing sensitivity, evaluating the magnitude of change, and determining

[17] Council of Europe Landscape Convention (ETS No. 176), opened for signature at Florence on 20 October 2000

[18] European Parliament and Council of the European Union (2011) Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment (as amended by Directive 2014/52/EU). Official Journal of the European Union, L26, 28 January 2012, pp. 1-21. Available at: https://eur-lex.europa.eu/eli/dir/2011/92/oj (Accessed: 9 September 2026).

[19] UK Government (2017) The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017/572). London: The Stationery Office. Available at: The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (Accessed: 9 September 2026).

[20] Environmental Management and Assessment, *'Guidelines for Landscape and Visual Impact Assessment'* (3rd Edition, 2013) (GLVIA3). *(*Accessed: 26 August 2026*)*

[21] Environmental Management and Assessment, *'Guidelines for Landscape and Visual Impact Assessment'* (3rd Edition, 2013) (GLVIA3). *(*Accessed: 26 August 2026*)*

	the significance of effects through professional judgement.
Landscape Institute, *Technical Guidance Note (LITGN-2024-01);* Notes and Clarifications (August 2024)[22].	Provides supplementary guidance and clarification on the interpretation and application of GLVIA3.
Landscape Institute TGN 06/19 Visual Representation of Development Proposals[23]	Provides guidance on the preparation and presentation of visualisations, photomontages, and other visual representations used in LVIA.
TGN 02/21: Assessing Landscape Value Outside National Designations[24](May 2021)	Provides guidance on identifying and assessing landscape value in areas that is not within a national landscape designation.
TGN 04/2020 Infrastructure guidance[25]	Provides advice on the assessment of landscape and visual effects associated with infrastructure projects.
Guidance – Regional	
London View Management Framework Supplementary Planning Guidance[26] (SPG, March 2012)	Identifies and protects strategically important views of London and provides guidance for assessing effects on designated views, landmarks, and viewing corridors.

15.3 Stakeholder Engagement

15.3.1.1 A detailed stakeholder engagement plan is currently being developed. The landscape team will ensure all key stakeholders with the potential to experience significant effects as a result of the Proposed Development are provided with sufficient information to discuss and agree the details of the assessment in a meaningful and inclusive manner.

[22] Landscape Institute (2024) Notes and Clarifications on Aspects of the 3rd Edition Guidelines on Landscape and Visual Impact Assessment (GLVIA3), Technical Guidance Note LITGN-2024-01, August 2024. London: Landscape Institute.
[23] Landscape Institute (2019) Visual Representation of Development Proposals. Technical Guidance Note 06/19. 17 September 2019. London: Landscape Institute. Available at: https://landscapeinstitute.org/policy-practice/technical/digital-practice-mapping-visualisation/visualisation/ (Accessed: 28 September 2026).
[24] Landscape Institute (2021) *Assessing Landscape Value Outside National Designations*. Technical Guidance Note 02/21. 26 May 2021. London: Landscape Institute.
[25] Landscape Institute (2020) *Infrastructure Guidance*. Technical Guidance Note 04/2020. Revised 24 September 2020. London: Landscape Institute.

[26] Greater London Authority (2012) London View Management Framework: Supplementary Planning Guidance. March 2012. London: Greater London Authority.

15.3.1.2 The 2018 HAL Scoping Report[27], 2018 HAL Scoping Opinion[28], 2025 HAL Scoping Report Addendum[29] and 2025 HAL Scoping Opinion[30] and previous HWH EIA Scoping Report were a source of information regarding stakeholder feedback and have been used to inform this Scoping Report. Although a useful source of information, it should be noted that the stakeholder feedback was for a different scheme and the data is now out of date.

15.3.1.3 The stakeholders listed below have been contacted initially to raise awareness of the Proposed Development. Further engagement will take place during Autumn/Winter 2026 to provide additional information in relation to the Proposed Development and timescales for further consultation. Stakeholders will be provided with an overview of the Proposed Development and invited to provide initial comments on the scope for the LTVIA. Further formal and informal consultations will be arranged to discuss and agree the details of the methodology for the assessment of potential effects on landscape, townscape and visual amenity arising from the Scheme.

Table 15-4: Previous and Future Stakeholder Engagement

Consultee	Engagement Undertaken to Date	Proposed Future Engagement
Natural England	Initial contact made to raise awareness of the Proposed Development.	Consultation following receipt of the Scoping Opinion to agree the approach to the LTVIA, including Study Area, designated landscapes, tranquillity assessment, cumulative effects and mitigation proposals. Continued
National Trust		
Chilterns National Landscape		
Colne Valley Trust		
London Borough of Hillingdon		

[27] Heathrow Airport Limited (2018) Scoping Report: Expansion of Heathrow Airport (Third Runway). London: Heathrow Airport Limited. Available at: Planning Inspectorate National Infrastructure Planning Portal (Accessed: 11 September 2026).
[28] Planning Inspectorate (2018) Scoping Opinion: Expansion of Heathrow Airport (Third Runway). Adopted by the Secretary of State on 29 June 2018. Bristol: Planning Inspectorate. Available at: National Infrastructure Planning Portal (Accessed: 11 September 2026).
[29] Heathrow Airport Limited (2025) Scoping Report Addendum: Expansion of Heathrow Airport (Third Runway). Submitted to the Secretary of State on 1 September 2025. London: Heathrow Airport Limited. Available at: National Infrastructure Planning Portal (Accessed: 11 September 2026).
[30] Planning Inspectorate (2025) *Scoping Opinion: Expansion of Heathrow Airport (Third Runway).* Adopted by the Secretary of State on 10 October 2025. Bristol: Planning Inspectorate. Available at: National Infrastructure Planning Portal (Accessed: 11 September 2026).

Consultee	Engagement Undertaken to Date	Proposed Future Engagement
London Borough of Hounslow		engagement during preparation of the ES.
Spelthorne Borough Council		
Slough Borough Council		
South Bucks District Council		
Royal Borough of Windsor and Maidenhead;		
London Borough of Ealing		
Surrey County Council		
Buckinghamshire County Council		
Richmond upon Thames Borough Council		

15.4 Study Area

15.4.1 Study Area

15.4.1.1 The Draft Heathrow Expansion National Policy Statement (HENPS) states that the assessment of airport development should consider landscape and visual effects, including effects on tranquillity. It further advises that references to landscape should be interpreted broadly to include local landscape, waterscape and townscape character and quality.

15.4.1.2 A 5km buffer extending from the Scoping Boundary has been defined as the LTVIA Study Area using professional judgement, taking account of the scale of the Proposed Development, the characteristics of the receiving landscape and townscape, and the potential extent of significant landscape, townscape, and visual effects.

15.4.1.3 The proposed 5km Study Area has also been informed by desktop study, an initial survey undertaken in 28-29th May 2026, and a preliminary visual baseline survey in 6-8th July 2026 which has informed the understanding of the Site and surrounding areas landform, the urban fabric and surrounding landscape context. The description of the visual baseline is detailed in **Section 15.6.2**. This understanding is reflected in the Preliminary Zone of Visual Influence (ZVI) (**Figure 15.1**), which identifies the predicted extent of potential visibility and the potential for significant effects to occur. Therefore, the majority of the view locations are within the ZVI. View locations beyond the 5 km Study Area have been included in Slough as a precautionary measure to verify that significant effects are unlikely to occur beyond this extent.

15.4.1.4 This is considered proportionate to the assessment requirements for nationally significant airport infrastructure and is consistent with the landscape, townscape and visual assessment principles set out in the draft HENPS.

15.4.1.5 In addition to the 5km LVIA Study Area, potential effects on tranquillity arising from increased aircraft activities enabled by the Proposed Development will be considered. In accordance with paragraph 5.313 of the draft Heathrow Expansion National Policy Statement (HENPS), "*The assessment should include the visibility and conspicuousness of the scheme … This should include any noise and lighting pollution effects, including on local amenity, tranquillity and nature conservation.*"

15.4.1.6 In the context of air traffic, "overflight" is a metric used to describe the operational effects of airspace change and refers to aircraft passing over an area, landscape, property or receptor while in flight. In accordance with Environmental Assessment Requirements and Guidance for Airspace Change Proposals (CAP1616i)[31], the tranquillity assessment will consider receptors overflown below 7,000 t, using overflight information to identify areas where aircraft activity may influence perceptions of tranquillity. It should be noted that the Civil Aviation Authority (CAA) identify CAP1616i as being superseded by CAP1616v6, CAP1616j, and CAP1616k; however, none of these documents refer to tranquillity. Currently, CAP1616i remains available as a reference document and is therefore utilised as such in this Scoping Report. The assessment will therefore consider aircraft movements below 7,000ft above local ground level within National Landscapes and National Parks, having regard to the guidance in CAP1616a. The spatial extent of the overflight Study Area will be defined and presented within the Environmental Statement (ES). Whilst consistent with the approach adopted in other airport expansion assessments, overflight activity above 7,000ft is not proposed to be assessed as part of the tranquillity assessment. Whilst effects on tranquillity arising from aircraft overflights above 7,000ft may occur, significant effects are not considered likely.

[31] Civil Aviation Authority (2026). Environmental Assessment Requirements and Guidance for Airspace Change Proposals (accessed 29 September 2026).

15.5 Sources of Data used in Scoping

15.5.1 Baseline Sources

15.5.1.1 Sources of baseline information include the following:

- Site visits completed in May and July 2026;
- Local authority planning policy and supplementary guidance documents as listed previously;
- Mapping (including Stantec's in-house GIS portal), aerial photography / street view, and digital terrain data;
- Chilterns National Landscape website;
- National Character Area Profile 111: Northern Thames Basin[32], 115: Thames Valley[33], 129: Thames Basin Heaths[34];
- Local Landscape Character Assessments, including:
    - Colne Valley Landscape Character Assessment (2017)35;
    - Hillingdon Landscape Character Assessment (2012)[36];
    - Hillingdon Townscape Character Study (2013)[37];
    - London Borough of Hounslow The Character, Sustainability and Design Codes SPD (Supplementary Planning Document) (2024)[38];
    - Royal Borough of Windsor and Maidenhead Landscape Character Assessment SPD,(2024)[39];
    - Ealing Character Study (2022)[40];
    - Surrey Landscape Character Assessment: Spelthorne Borough[41];

[32] Natural England (n.d.) Northern Thames Basin: National Character Area Profile 111. Available at: Northern Thames Basin National Character Area Profile (Accessed: 26 August 2026).
[33] Natural England (n.d.) Thames Valley: National Character Area Profile 115. Available at: Thames Valley National Character Area Profile (Accessed: 26 August 2026).
[34] Natural England (n.d.) Thames Basin Heaths: National Character Area Profile 129. Available at: National Character Area Profile 129 – Thames Basin Heaths (Accessed: 26 August 2026).
[35] Alison Farmer Associates (2017) Colne Valley Landscape Character Assessment: Final Report. Prepared for the Colne Valley Landscape Partnership. Cambridge: Alison Farmer Associates. Available at: Colne Valley Landscape Character Assessment: Final Report (Accessed: 26 August 2026).
[36] London Borough of Hillingdon (2012) Hillingdon Landscape Character Assessment. Uxbridge: London Borough of Hillingdon. Available at: Hillingdon Landscape Character Assessment PDF (Accessed: 26 August 2026).
[37] London Borough of Hillingdon (2013) *Townscape Character Study*. Uxbridge: London Borough of Hillingdon. Available at: Hillingdon Townscape Character Study (Accessed: 26 August 2026).
[38] London Borough of Hounslow (2024) The Character, Sustainability and Design Codes Supplementary Planning Document (SPD). London: London Borough of Hounslow. Available at: https://www.hounslow.gov.uk/planning-policy/character-sustainability-design-codes-spd (Accessed: 29 September 2026).
[39] London Borough of Hounslow (2014) Urban Context and Character Study. Hounslow: London Borough of Hounslow. Available at: Urban Context and Character Study (Accessed: 26 August 2026)
[40] Allies and Morrison Urban Practitioners and Solidspace (2022) Ealing Character Study: Part A1 - Borough-wide Characterisation. London: London Borough of Ealing. Available at: Ealing Character Study: Part A1 - Borough-wide Characterisation (Accessed: 22 September 2026).
[41] Hankinson Duckett Associates (2015) Surrey Landscape Character Assessment: Spelthorne Borough. Prepared for Surrey County Council and the Surrey Planning Officers Association. April 2015. Available at: Surrey Landscape Character Assessment: Spelthorne Borough (Accessed: 22 September 2026).

- Surrey Landscape Character Assessment: Runnymede Borough[42];
- Royal Borough of Windsor and Maidenhead Townscape Assessment (2010)[43]
- London Borough of Richmond upon Thames Urban Design Study(2021)[44]; and
- South Bucks District LCA (2011)[45].

- Studies relating to local landscape and townscape value and historic character were relevant and available (e.g. Conservation Area Appraisals), supporting studies relating to local landscape designations and any studies identifying valued / key views.

15.5.1.2 **Table 15.3** summarizes the landscape character data sources and relevance to the assessment.

Table 15-5: Data Sources used for Scoping

Source	Relevance to the Assessment
National Character Area (NCA) Profile 115: Thames Valley	Provides information on the key characteristics associated with the relevant NCA.
Colne Valley Landscape Character Assessment (LCA) (2017)	Provides information on the key characteristics associated with the relevant LCAs within the Colne Valley.
Hillingdon Landscape Character Assessment (2012) and Hillingdon Landscape and Townscape Character Assessment (TCA), London Borough of Hillingdon Council (2012)	Provides information on the key characteristics associated with the relevant LCAs and TCA within Hillingdon.
Surrey Landscape Character Assessment, Surrey County Council and Surrey Planning Officers Association (2015)	Provides information on the key characteristics associated with the relevant LCAs and TCAs within Spelthorpe and Runnymede.

[42] Hankinson Duckett Associates (2015) Surrey Landscape Character Assessment: Runnymede Borough. Prepared for Surrey County Council and the Surrey Planning Officers Association. April 2015. Available at: Surrey Landscape Character Assessment: Runnymede Borough (Accessed: 22 September 2026).
[43] Royal Borough of Windsor and Maidenhead (2010) Townscape Assessment. Maidenhead: Royal Borough of Windsor and Maidenhead. Available at: Townscape Assessment (Accessed: 26 August 2026)
[44] Arup (2021) Urban Design Study. Prepared for the London Borough of Richmond upon Thames. December 2021. Available at: Urban Design Study (December 2021) (Accessed: 22 September 2026).
[45] Land Use Consultants (2011) South Bucks Landscape Character Assessment. Prepared for Buckinghamshire County Council and South Bucks District Council. Aylesbury: Buckinghamshire County Council. Available at: Buckinghamshire Landscape Character Assessments (Accessed: 26 August 2026).

Royal Borough of Windsor and Maidenhead Landscape Character Assessment, Royal Borough of Windsor and Maidenhead Council (2004)	Provides information on the key characteristics associated with the relevant LCAs and TCAs within Windsor, Maidenhead and Slough.
South Bucks District Landscape Character Assessment (2011)	Provides information on the key characteristics associated with the relevant LCAs and TCAs within West Slough.
Ealing Character Study (2022)	Provides information on the key characteristics associated with the relevant TCAs within Ealing.
London Borough of Richmond upon Thames Urban Design Study(2021)	Provides information on the key characteristics associated with the relevant TCAs within Richmond upon Thames.

15.6 Baseline Conditions

15.6.1 Baseline Description

15.6.1.1 The Site extends across several Landscape Character Areas and Townscape Character Areas. The Site is located to the north and west of Heathrow Airport, within the area defined by Heathrow Airport, the M4 and the M25.

15.6.1.2 The majority of the Site is located to the north of Heathrow Airport, between Heathrow Airport and the M4. The Scoping Boundary extends in all directions around Heathrow Airport, broadly following the highway network.

15.6.1.3 The Study Area covers a wide extent of land to the west of Greater London and east of Slough and Windsor. The landscape is varied in character, reflecting the influence of the Thames Valley and Colne Valley, as well as the presence of Heathrow Airport, major motorway corridors, railway infrastructure and the urban edge of Greater London.

15.6.1.4 In general, the Site is located within an area strongly influenced by Heathrow Airport, major transport infrastructure, and the urban areas of Greater London and Slough. However, parts of the Site are situated within greenfield areas that contribute to the setting of historic settlements, the Colne Valley and the Thames Basin. These areas provide a contrast to the surrounding urban and infrastructure-dominated landscape, which have a more rural and open character.

15.6.1.5 The Scoping Boundary of the Site is mainly located within National Character Area (NCA) 115: Thames Valley. NCA 111: Northern Thames Basin extends into the north-eastern part of the Study Area, whilst NCA 129: Thames Basin Heaths is located to the south-west of the Study Area.

15.6.1.6 Other Details of published landscape characters assessment and key characteristics is summarised in **Appendix 15.2: Publish Landscape Character**.

15.6.1.7 There are no designated landscapes within the Site and the Study Area.

Published Landscape and Townscape Character

15.6.1.8 Assessment of landscape character can be undertaken at national, regional, district and local levels. A full list including key characteristics, landform, land use, historic environment and perceptual experience of the relevant landscape character areas in relation to the Study Area are provided within **Appendix 15.2: Published Landscape Character**. The following landscape character assessments provide descriptions of the relevant prevailing landscape within the proposed Study Area:

- National Character Area (NCA) NCA 111: Northern Thames Basin, NCA115: Thames Valley, NCA 129: Thames Basin Heaths;
- Colne Valley Landscape Character Assessment (2017);
- London Borough of Hounslow Urban Context and Character Study (2014);
- Landscape Character Assessment for the Royal Borough of Windsor and Maidenhead (2004);
- Royal Borough of Windsor and Maidenhead Townscape Assessment (2010);
- South Bucks District Landscape Character Assessment (2011);
- Surrey Landscape Character Assessment (2015);
- Hillingdon Townscape Character Study (2023); and
- Hillingdon Landscape Character Assessment (2012).

15.6.1.9 For the townscape character of Slough, the ES Chapter will draw upon the assessment undertaken for the HAL DCO Project Preliminary Environmental Information Report (PEIR), which was originally prepared to support the 2020 HWL Application. Given the time elapsed since this assessment was completed, a review of current baseline conditions will be undertaken and, where required, supplementary assessment will be carried out to ensure that the ES reflects the current townscape context.

15.6.1.10 Further description and listings of the key characteristics associated with the relevant landscape character areas are provided within **Appendix 15.2: Published Landscape Character**.

Landscape and Townscape Character and Features of the Site

15.6.1.11 The landscape, townscape and visual baseline within and surrounding the Draft Order Limits is a contrasting one of notable infrastructure including Heathrow Airport, the M25, the M4 and A4, small historic settlements such as Harmondsworth, Cranford and Harlington, and wider conurbation of Greater London with centres including Slough, West Drayton, Hayes, Hounslow, Ashford and Staines-upon-Thames. Pockets of medium-scale agricultural land are also present around the Thames Basin and Colne Valley.

15.6.1.12 Heathrow Airport is a notable feature, exerting a large-scale commercial influence on current baseline conditions, covering approximately 1,200 hectares (ha). Adjacent to Heathrow Airport and within the Site are a variety of buildings and developments that support airport operations, including long stay car parks, hotels, offices and logistics complexes.

15.6.1.13 The Site and Heathrow Airport are located within a low-lying valley basin associated with the River Thames and the Colne Valley, with elevations generally between 0–10m Above Ordinance Datum (AOD). This low-lying landform broadly follows the River Thames to the east and west of the Site and Heathrow Airport. The Colne Valley, situated to the north of the Site, also lies at a lower elevation compared to the surrounding landscape.

15.6.1.14 The Thames Basin and Colne Valley form green corridors around the Site, connecting areas of open green space, Green Belt land, medium-scale agricultural landscapes, reservoirs, waterbodies and waterways. Several ecologically sensitive sites are located to the south and southwest of the Site, including Staines Moor Site of Special Scientific Interest (SSSI), Wraysbury and Hythe End Gravel Pits SSSI, and the South West London Waterbodies Special Protection Area (SPA) and Ramsar site. These land uses contrast with the extensive transport infrastructure associated with the motorway network and Heathrow Airport, providing areas of relative tranquillity within the wider landscape.

15.6.1.15 To the north and east of the Site, there are medium to large settlements that form part of the Greater London, including West Drayton, Uxbridge, Hillingdon, Hayes, Hounslow. To the south lie Staines-upon-Thames, Ashford and Feltham, while Poyle, Slough and Windsor are located to the west. These settlements are densely urbanised with mixes of residential and commercial activities.

15.6.1.16 There are several local landscape and townscape designation within the Study Area, this includes: Hillingdon - Areas of Special Local Character, Hounslow - Area of Special Character, Windsor ad Maidenhead – Area of Special Landscape Importance, Runnymede – Area of Landscape Importance, Richmond – Other Open Land of Townscape Importance.

Tranquillity

15.6.1.17 Tranquillity is a perceptual quality, considered to be a state of calm and quietude and an important asset of landscape and landscape character. The experiential quality of National Character Area (NCA) 115 Thames Basin is described as follows:

“Based on the CPRE map of tranquillity (2006) none of this NCA can be officially considered as tranquil. The lowest scores for tranquillity are around the urban areas and Heathrow Airport. Expanses of parkland such as Windsor Great Park score medium tranquillity.”

15.6.1.18 The NCA notes that there are "*pockets of woodland, open grassland, parkland, wetlands and intimate meadows provide escape and tranquillity"* even though the majority of the NCA is densely populated and developed.

15.6.1.19 Effects on tranquillity will be considered as part of the Landscape and Townscape section of the LTVIA. Baseline tranquillity will be informed by the following:

- The current CPRE tranquillity map covering the Study Area;
- Baseline overflight assessment below 7,000ft;
- Proposed overflight assessment below 7,000ft;
- Observations from the Site visit;
- Baseline noise survey; and
- Operational phase noise survey.

Visual Amenity

15.6.1.20 Heathrow Airport forms a substantial and distinctive built presence within this setting, making it highly visible and recognisable from long distances. In addition to the airport, major transport infrastructure influences views across the area, including the M25, which runs north-south across the Site, and the M4, which runs east-west.

15.6.1.21 Several small village settlements associated with historic development are located immediately around the Site and Heathrow Airport, including Longford, Harmondsworth, Sipson, and Harlington. Longford, Harmondsworth, and Sipson intersect with the Site boundary. The proximity of these settlements to the Site and Heathrow Airport potentially exposes these receptors to direct and largely unmitigated views of the Site.

15.6.1.22 The surrounding area away from the airport complex is predominantly urban, with the exception of the Green Belt and open spaces associated with nearby greenspace, and waterways. The surrounding settlements are largely part of Greater London to the north and east, including Uxbridge, Hillingdon, Hayes and West Drayton. To the south lies Staines-upon-Thames, Ashford and Feltham, while Poyle, Slough and Windsor are located to the west. These medium-to-large sized settlements are characterised by relatively dense built form, which in most cases limits visibility of the Site from within them. Where views do occur, they are typically experienced at the settlement edges, from adjacent green spaces or locally elevated positions.

15.6.1.23 Waterbodies and waterways limit the development along the Colne Valley, and within the Thames Valley and also the South West London Water Bodies SPA and Ramsar Sites. These undeveloped areas are often still influenced by the Airport and road infrastructure, but experience more expansive open views, associated with the open valley landform and open waterbodies, although vegetation does sometimes limit and restrict views.

15.6.1.24 The Study Area contains a large network of Public Rights of Way (PRoWs) and long-distance recreational routes of regional and national importance. These recreational routes include the Colne Valley Way, Thames Path, Beeches Way, London Loop and Grand Union Canal Walk.

15.6.1.25 As the landform rises away from the Site, there are several elevated long-distance view locations available, including from Richmond Park to the east, Saint Anns Hill to the South and Harefield to the north.

Visual Receptors

15.6.1.26 Potential visual receptors of relevance to the Proposed Development are likely to include:

- Residents in surrounding settlements,
- Workers at Heathrow and associated facilities;
- Users of local PRoW;
- National Cycle Network (NCN) Route users;
- Users of long distance footpaths, including the Grand Union Canal, Beech Way, Thames Walk, The King's Walk, and London Loop;
- Users of the road network; and
- Visitors to public open spaces such as Country Parks and monuments such as Cranford Countryside Park.

15.6.1.27 Due to the extent of the Study Area and the widespread distribution of visual receptors, these have been grouped into a series of receptor groups. The use of receptor groups enables large areas to be assessed efficiently, with each group representing areas of similar urban or rural visual character. View locations have been selected within each receptor group, typically at vantage points or locations representative of sensitive receptors, to provide a worst-case assessment. The visual characteristics of each receptor group are summarised below:

- **Harmondsworth/Sipson**: Located to the north of Heathrow Airport, south of the M4, and east of the M25 motorway corridor, Harmondsworth and Sipson are both small village settlements. Although surrounded by major transport infrastructure, the villages themselves are set within a landscape of arable farmland and open green fields. This group comprises predominantly residential receptors but also includes a small number of local PRoW users.
- **West Drayton/Hayes Town**: West Drayton and Hayes Town are medium-density settlements that form part of Greater London. The flat landform and urban character limit views towards Heathrow Airport, with visibility generally limited to the edges of the settlements and areas of open green space. This group comprises predominantly residential receptors but also includes recreational receptors within the Green Open Spaces, and users of the Grand Union Canal which passes through the area.
- **Harlington**: Harlington is located to the northeast of Heathrow Airport. It is a small linear village settlement that is strongly influenced by surrounding transport infrastructure, while also being set amongst arable farmlands. The

open fields and areas of green space allow some direct views towards Heathrow Airport. This group includes residential receptors, users of local PRoWs, and visitors to Cranford Countryside Park and the London Loop.

- **Cranford/ Hounslow**: This group is located to the east of Heathrow Airport and the Cranford Valley and comprises medium to high-density settlements that form part of Greater London. Being situated beneath existing Heathrow Airport flight paths, aircraft movements are a noticeable feature of the area. Due to the dense pattern of development, open views are generally limited to green open spaces and the edges of settlements. Receptors within this group are predominantly residential, together with users of local green open spaces.
- **Feltham/Ashford**: Feltham and Ashford are medium-to-high density settlements which form part of Greater London and are located to the southeast of Heathrow Airport. Bedfont Lakes Country Park lies between the two settlements, while the Elizabeth Line runs west to east through the area. Views of Heathrow Airport are generally available from the edges of the settlements and within areas of open green space. This group comprises predominantly residential receptors, together with visitors to Bedfont Lakes Country Park.
- **Stanwell/Staines**: Stanwell and Staines are medium-sized, medium-density settlements located to the southwest of Heathrow Airport. Aircraft activity associated with Heathrow is a noticeable feature; however, views of the airport itself are generally limited from within the internal street network. The reservoirs and Green Belt land to the west provide a more open, semi-rural setting. This group comprises predominantly residential receptors but also includes a number of local PRoWs.
- **Sutton/Slough**: Sutton and Slough are commuter towns located to the northwest of the M25 and M4 Junction. The Transport corridor has separated these towns from being directly influenced by the airport and its infrastructure. These towns are of medium-to-high density, so visibility of the airport is restricted to the edges of the settlement or from elevated local viewpoints. The receptors in this group are mainly residential and users of local open green space.
- **Iver/Colne Valley**: Iver and the Colne Valley follow the river valley and M25 corridor. Much of the area remains undeveloped, with the exception of the village of Iver and a number of scattered settlements. Although influenced by the transport corridor and surrounding settlements, the area generally retains a greener and more tranquil character. Waterways, lakes, and the Grand Union Canal are key features that traverse the valley. Longer distance views towards Heathrow Airport are available from the northern parts of the valley; however, views from waterways and canal routes are often filtered or screened by vegetation. This group includes recreational receptors using long-distance routes and green open spaces, as well as a smaller number of residential receptors.
- **Wraysbury**: Wraysbury is located to the southwest of Heathrow Airport. Views within this group are influenced by the Thames Basin and Colne Valley, with reservoirs, wetlands, and waterways forming key landscape features. While the area contains some linear village settlements, the majority of the area remains

undeveloped. Views towards Heathrow Airport are apparent in places due to the flat landform and limited built development; however, many routes are well vegetated, helping to retain a tranquil character. Receptors within this group are predominantly recreational, including users of footpaths and visitors to country parks.

- **Poyle/Coln Brooke**: Poyle and Colnbrook are located to the southwest of the M4/M25 junction. The area comprises a mix of industrial and logistics developments, together with suburban residential settlements. The group is separated from the direct influence of Heathrow Airport, but it is strongly influenced by the surrounding transport infrastructure corridors. This group comprises predominantly residential receptors but also includes a number of users of local PRoWs.
- **Richings Park/ Thorney**: This group is located to the northwest of the M4/M25 junction, between Slough and the M25. It comprises a mix of undeveloped arable farmland along the M25 corridor. However, the area has been subject to development pressure, with new residential development and suburban land uses, such as golf courses, becoming prevalent. This group comprises predominantly residential receptors but also includes local PRoW users.
- **Cooper's Hill/Runnymede**: Cooper's Hill and Runnymede are located on slightly elevated ground to the southwest of the Thames Basin, allowing longer-distance views towards Heathrow Airport. The settlements are of medium density, with much of the Thames Basin remaining undeveloped. Views within this group are generally more tranquil and attractive in character due to the more open, vegetated landscape and lower level of urban influence. This Group contains recreational visual receptors and visitors of Cooper's Hill Memorial.
- **Windsor**: Windsor is a historic town located to the southwest of the Thames Basin. Land along the River Thames is largely undeveloped or comprises private green space, allowing some long-distance views and contributing to a relatively rural and tranquil outlook. While views of Heathrow Airport are generally not available from within the town itself, some long-distance views towards the airport can be obtained from footpaths to the east of Windsor. This group includes recreational visual receptors and users of long-distance footpaths.

15.6.1.28 The Preliminary ZVI relating to the Proposed Development, which was created to support this Scoping Report, is illustrated on **Figure 15.1**. Although sensitivity of the receptors which will be included in the ES Chapter and identified within this Scoping Report varies, residents and users of long-distance and / or national recreational routes are generally the most sensitive.

15.6.1.29 The proposed representative View Locations are set out in **Table 15.4** below for consultation as part of the Scoping process. These View Locations are grouped together to form receptor groups on which the LVIA will be undertaken. The locations have considered previously agreed locations set out in the HAL DCO Project LVIA PEIR to allow comparison between assessments. Additional locations considered to be sensitive and requiring assessment have also been

included. However, in some instances view locations have been relocated to a more appropriate location or added to provide a better understanding of baseline conditions.

15.6.1.30 Given that the Study Area encompasses a mix of urban areas and open green spaces, view locations have been selected to represent worst-case, where views of the Proposed Development are likely to be available, including at vantage points, the edges of settlements, areas of clearance, and locations occupied by sensitive receptors such as residential properties and recreational users. Fewer view locations have been selected within the urban receptor groups, as opportunities for views are generally more limited and the visual character is typically more consistent across these areas. A greater number of view locations have been selected within receptor groups associated with open green spaces, where visual character is more varied and opportunities for views of the Proposed Development are more likely to occur.

Table 15-6: Representative View Locations and Visual Receptor Type

View Location	Grid Reference	Location	Receptor Group	Visual Receptor Type
VL1	TQ 058777	Harmondsworth Lane, High Street	Group: Harmondsworth/Sipson	Residential receptor
VL2	TQ 060791	The Closes, West Drayton	Group: West Drayton/Hayes Town	Residential and recreational receptor
VL3	TQ 071783	Sipson Road, Holiday Inn	Group: Harmondsworth/Sipson	Residential receptor
VL4	TQ 074808	Stockley Country Park	Group: West Drayton/Hayes Town	Recreational receptor at Stockley Country Park
VL5	TQ 080776	PRoW off Sipson Lane	Group: Harlington	Residential receptor and local recreational receptor
VL6	TQ 084780	Victoria Lane, Harlington	Group: Harlington	Residential receptor
VL7	TQ 102778	Cranford Countryside Park (London Loop)	Group: Harlington	National Recreation Receptor: London Loop

View Location	Grid Reference	Location	Receptor Group	Visual Receptor Type
VL8	TQ 115767	Hounslow Heath	Group: Cranford/ Hounslow	Local Recreational Receptor: Hounslow Heath
VL9	TQ 117742	Great South West Road	Group: Feltham/Ashford	Residential receptor
VL10	TQ 080734	Bedfont Lakes Country Park	Group: Feltham/Ashford	Local Recreational receptor: Bedfont Lakes Country Park
VL11	TQ 084728	Oaks Road, Stanwell	Group: Stanwell/Staines	Residential receptor
VL12	TQ 057744	PRoW Staines Reservoirs	Group: Wraysbury	Local Recreational Receptor
VL13	TQ 051731	Horton Road, Stanwell Moor	Group: Stanwell/Staines	Residential receptor
VL14	TQ 042746	Staines Moor	Group: Wraysbury	Local Recreational Receptor Staines Moor
VL15	TQ 031726	PRoW Shortwood Common	Group: Wraysbury	Local Recreational Receptor
VL16	TQ 048717	St Annes Park Beacon	-	Long distance view, Local Recreational Receptor
VL17	TQ 024677	Copper's Hill Memorial	Group: Cooper's Hill/Runnymede	National Recreational Receptor
VL18	SU 998719	Runnymede Beacon	Group: Cooper's Hill/Runnymede	National Recreational Receptor
VL19	SU 996723	Wraysbury PRoW	Group: Wraysbury	Local Recreational Receptor

View Location	Grid Reference	Location	Receptor Group	Visual Receptor Type
VL20	TQ 009748	Colne Vally Way	Group: Wraysbury	National Recreational Receptor: Colne Valley Way
VL21	TQ 018761	Albert Bridge Windsor	Group: Windsor	National Recreational Receptor: Thames Way
VL22	SU 984756	The Kings Walk	Group: Windsor	National Recreational Receptor: The Kings Walk
VL23	SU 970763	Poyle Bath Road	Group: Poyle/Coln Brooke	Residential Receptor
VL24	TQ 033766	Tanhouse Way Public Footpath, Colnbrook	Group: Poyle/Coln Brook	Residential Receptor, Local Recreational Receptor
VL25	TQ 029772	Sutton Lane at M4 Motorway crossing	Group: Slough/Sutton	Local footpath users, Residential receptors at Sutton
VL26	TQ 019781	PRoW Old Wood	Group: Poyle/Coln Brooke	Local Recreational Receptor
VL27	TQ 032780	Market Lane, Slough	Group: Slough/Sutton	Residential Receptors
VL28	TQ 020795	Grand Union Canal Slough Arm	Group: Iver/Colne Valley	National Recreational Receptor: Grand Union Canal
VL29	TQ 048807	Iver Lane, Beech Way	Group: Iver/Colne Valley	National Recreational Receptor: Beech Way, Residential Receptor

View Location	Grid Reference	Location	Receptor Group	Visual Receptor Type
VL30	TQ 047820	Beech Way	Group: Iver/Colne Valley	National Recreational Receptor: Beech Way
VL31	TQ 038820	PRoW at New Denham, Uxbridge	Group: Iver/Colne Valley	Residential Receptor and Local Recreational Receptor
VL32	TQ 047848	Hayes, Grand Union Canal Walk	Group: West Drayton/Hayes Town	National Recreational Receptor: Grand Union Canal Walk
VL33	TQ 090799	King Henry VIII's Mound, Richmond Park	-	Long distance receptor
VL34	TQ 186731	PRoW, George Green	Group: Langley Park Country Park	Local Recreational Receptor
VL35	TQ 005811	Colne Valley Trail, Thorney Country Park	Group: Richings Park/ Thorney	Local Recreational Receptor
VL36	TQ 115695	Old Slade Farm	Group: Richings Park/ Thorney	Residential Receptor
VL37	TQ 045793	Kennedy Park Viewing Mound	Group: Slough/Sutton	Residential Receptors and Local Recreational Receptor

15.6.1.31 All view locations will be considered both during the day and at night-time to take account of night-time landscape, townscape and visual effects.

15.6.1.32 Environmental Lighting Zones are determined by desk-based study in **Chapter 23: Lighting**, in accordance with the Guidance Notes for the Avoidance of Obtrusive Light Institution of Lighting Professionals (2026)[46]. The ELZ define the broad night-time characteristics of areas in terms of relative brightness or darkness.

[46] Institution of Lighting Professionals (2021) GN01/21: The Reduction of Obtrusive Light. Rugby: Institution of Lighting Professionals. Available at: ILP GN01/21: Reduction of Obtrusive Light Guide (Accessed: 26 August 2026).

15.6.1.33 Land within the existing Heathrow Airport site is considered to fall within an E4 ELZ, and land surrounding the Airport is considered to fall predominantly within an E3 ELZ, with some pockets of land considered to fall within an E2 ELZ.

15.6.1.34 The impacts of lighting on ecological features and human health receptors will be considered within **Chapter 6: Biodiversity** and **Chapter 20: Noise and Vibration**.

Residential Visual Amenity

15.6.1.35 Residential Visual Amenity Assessment (RVAA) is a stage beyond the LVIA and focuses exclusively on private views and the visual amenity experienced by residents. It is considered possible that the Proposed Development could affect residential visual amenity in a manner that is perceived as dominant, oppressive, or overwhelming.

15.6.1.36 In the Langham Windfarm appeal decision (Application Reference N/005/02812/06, 29 July 2010), the Inspector stated that "*The planning system controls development in the public interest, and not in the private interest. The preservation of open views is a private interest, which the planning regime is not intended to protect. But public and private interests may overlap. The issue is whether the number, size, layout and proximity of wind turbines would have such an overwhelming and oppressive visual impact on a dwelling and its amenity space that they would result in unsatisfactory Living Conditions, and so unacceptably affect amenities and the use of land and buildings which ought to be protected in the public interest.*"

15.6.1.37 The threshold at which a residential property's visual amenity becomes an issue of Residential Amenity has sometimes been described as the point when '*the effect(s) of the development on the 'private interest' is so great that it becomes a matter of 'public interest*'' (LI TGN 02/2019).

15.6.1.38 The requirements for RVAA are unknown at this stage and will be discussed with the stakeholders as the project progresses. Any RVAA Study Area would be proportionate and refined to consider receptors where significant visual effects are identified for residential receptor groups through the LVIA process. RVAA will be produced as part of the ES if determined to be required.

15.7 Likely Significant Effects Requiring Assessment

15.7.1.1 The key components of the Proposed Development include the following:

- Airport Runways, Terminal Buildings and Airside Support Buildings;
- Transport Mobility and Access;
- River Diversions and Flood-Risk Compensation areas;
- Green and Blue Infrastructure; and
- Airport Supporting Development and Displaced Uses.

15.7.1.2 Potential landscape and visual effects arising from the Proposed Development during both the construction and operational phases are those upon landscape and townscape character, landscape and townscape features, and people's views and visual amenity within the Site and Study Area.

15.7.2 Construction

15.7.2.1 During the construction phase, the Proposed Development has the potential to result in significant effects on landscape and visual receptors arising from construction activities associated with the runway, terminal buildings, transport infrastructure and other supporting infrastructure.

15.7.2.2 The construction of the Proposed Development is estimated to be undertaken over a period of approximately six years with the start date likely to be in 2030 at the earliest. However, the duration and sequencing of activities will vary across the Site as the construction programme and phasing strategy are refined.

15.7.2.3 The following are the likely effects that could arise during the Construction Phase.

- Effects from temporary construction and logistics infrastructure to support the construction activities, which include the following:
  - Temporary Rail Siding;
  - Construction Compounds and Access;
  - Logistics, Freight and Material Storage Areas;
  - Construction Consolidation Centres;
  - Construction Laydown Areas;
  - Construction Traffic Management and Haulage Routes;
  - Plant and Equipment Operating Areas;
  - Construction Waste and Recycling Facilities (enabling and construction of waste processing); and
  - Utility Supplies and Disposal.
- Changes to landform arising from major earthworks, landform modification and the construction of Green and Blue Infrastructure, river diversions, flood compensation areas and other flood risk mitigation infrastructure;
- Changes in land use, including the permanent loss of existing agricultural land and other land uses within the Site;
- Changes to field patterns and landscape structure resulting from the introduction of the Proposed Development;
- Effects on vegetation, including the removal or alteration of existing hedgerows, trees and woodland, particularly ancient woodland and veteran trees where present;
- An increase in construction-related activity, including the movements of large plant and use of external lighting, workforce activity, material handling and associated disturbance;

- Effects on Public Rights of Way (PRoW) and recreational routes arising from temporary closures, diversions, restricted access and changes to the surrounding landscape and visual environment;
- Visual effects arising from construction activities, including construction plant, cranes, stockpiles, construction compounds, temporary access roads, haul routes and logistics facilities;
- Visual effects arising from external lighting and other night-time construction activities; and
- Temporary effects on the character and perceptual qualities of the landscape, including tranquillity, resulting from construction activity, movement, lighting and the presence of temporary construction infrastructure.

15.7.3 Operation

15.7.3.1 During the operational phase, the Proposed Development will potentially result in significant effects on landscape and visual receptors from the introduction of a new runway, terminal buildings, associated airport infrastructure and transport infrastructure.

15.7.3.2 The following effects have the potential to arise from the Operational Phase:

- Permanent changes to landscape character arising from the introduction of the runway, terminal buildings, associated airport infrastructure and transport infrastructure;
- Changes to the physical characteristics of the landscape resulting from new landforms, watercourses, flood management features and Green and Blue Infrastructure;
- Changes in land use and landscape pattern within and surrounding the Site;
- Effects on the experience of PRoW and recreational routes resulting from altered views and landscape context;
- Changes to visual amenity resulting from the introduction of airport infrastructure, buildings and associated development;
- Effects associated with operational lighting and increased visibility of airport activity; and
- Changes to tranquility and other perceptual qualities resulting from the operation of the Proposed Development, including aircraft movements and airport-related activity.

15.7.3.3 15 years following implementation of the proposed Green and Blue Infrastructure, when this is considered to have established beneficial effects may occur on landscape character. These effects are likely to be localised to the Green and Blue Infrastructure areas and their immediate surroundings and, while beneficial, may not be significant in EIA terms.

Landscape / Townscape

15.7.3.4 Likely significant landscape effects are predicted to occur on landscape and townscape character receptors, particularly within the Scoping Boundary.

15.7.3.5 It is likely that changes will occur to the character of the Site arising from the redevelopment and introduction of new built form. Therefore, this is scoped in.

15.7.3.6 As the design parameters of the Proposed Development are still being developed, it is not yet possible to determine whether significant effects on landscape character of the NCA would occur. However, there is potential for significant effects on NCA 115: Thames Valley, given the extent of the Proposed Development within this character area and the potential for changes to its key landscape characteristics. Therefore, NCA 115: Thames Valley is scoped into the assessment. The Scoping Boundary of the Proposed Development falls within three NCA's, with the other two considered in **Section 15.8** below.

15.7.3.7 Likely significant effects are predicted to occur on the recipient Landscape and Townscape Character Areas at the regional level. These include:

- **Colne Valley Regional Park**: LCA 3: Cowley to West Drayton, LCA 4: Harmondsworth to Stanwell Moor, LCA 8: Horton and Wraysbury Lowlands, LCA 11: Richings Lowland, LCA 13: River Ash Corridor – Staines.
- **Hillingdon**: TCT HI6 Historic Core, TCT HI7 Inter-war Suburb/Metroland, TCT HI11 Retail Centre, LCA HI13 Stockley Gravel Terrace Recreation, LCA HI14 Minet Gravel Terrace Recreation, TCT HI15 Industrial and Commercial Canal Side, TCT HI16 Commercial Airport, LCA HI17 Heathrow, TCT HI18 Institutional Development, LCA HI19 Little Britain Lakes, LCA HI20 Fray Island to Stanwell Moor.
- **Hounslow**: TCA HO1 Bedfont, TCA HO2 Feltham, TCA HO3 Hounslow West, TCA HO4, Hanworth, TCA HO5 Cranford and Heston and TCA HO7 Central Hounslow.
- **Spelthorne**: LCA SP1 Thames Valley Reservoir, LCA SP2 Colne River Floodplain LCA, LCA SP4 Colne River Valley Floor LCA, LCA Sp6 Princes Lakes Significant Greenspaces with Urban Areas, TCA SP3 Urban, Staines & Stanwell.
- Slough
- **Windsor and Maidenhead:** LCA Wi8 Settled Developed Floodplain - Horton and Wraysbury, LCA Wi6 Settled Farmed Floodplain - Datchet, TCA Wi1 Urban (Windsor)
- **Buckinghamshire:** LCA Bu2 Flood Plain - Colne Valley, LC Bu7 Mixed Use Terrace - Iver Heath
- **Ealing:** TCA Ea5 Southall.
- **Richmond Upon Thames:** LCA RI3 Hampton Residential LCA
- **Runnymede:** Ru4 Urban Areas

15.7.3.8 These effects result from direct physical changes to the landscape receptor, and also the potential for indirect perceptual effects on the surrounding landscape. The exact extent of these indirect effects remains uncertain while the development parameters continue to evolve, but taking a worst-case approach these are scoped in.

15.7.3.9 Likely significant effects are also predicted for local landscape designations and areas of Green Open Space that directly interact with the Proposed Development. Colne Valley Regional Park, Cranford Country Park, Bedfont Lakes Country Park and Thorney Country Park either lie within or are adjacent to the Scoping Boundary and have a direct relationship with the Proposed Development. Owing to their recreational function, landscape value and role as accessible green spaces, they are considered to be highly sensitive landscape receptors. Consequently, these receptors may experience significant landscape effects as a result of the Proposed Development and are therefore scoped into the assessment.

15.7.3.10 Registered Park and Garden (RPG) 1466074: Stockley Park, comprising the business park (Phases I and II), country park and golf course, is located within the Scoping Boundary. Although the RPG designation is primarily a heritage designation, the site is also considered to be of high landscape value. Consequently, it is considered a highly sensitive landscape receptor that may experience significant landscape effects as a result of the Proposed Development and is therefore scoped in.

15.7.3.11 Several long-distance routes fall within the Scoping Boundary, including the Grand Union Canal Path (Paddington Arm and Slough Arm), London Loop, the Thames Path National Trail and the Hillingdon Trail. The recreational and experiential quality of these routes could be affected by the Proposed Development. They are therefore considered highly sensitive landscape receptors with the potential to experience significant landscape effects, and are scoped in.

15.7.3.12 There are no nationally designated landscapes within the Study Area when excluding the overflight Study Area. When the overflight Study Area is considered, the Chilterns National Landscape is also included within the Study Area and is likely to be particularly sensitive to potential effects on tranquillity arising from the Proposed Development and may experience significant landscape effects. Currently the scoping status of the Chilterns NL is unknown as the potential effects from overflight are to be confirmed.

15.7.3.13 Likely significant effects are predicted to occur on landscape and townscape character and features of the Site, as a result of the introduction of the Proposed Development. These are scoped into the assessment.

Views and Visual Amenity

15.7.3.14 Likely significant visual effects are anticipated for visual receptors within the Zone of Visual Influence located closest to the Site, with the magnitude of effect likely to reduce with increasing distance from the Proposed Development.

15.7.3.15 Sensitive visual receptors include residential receptors and recreational receptors, particularly users of long-distance routes and PRoW, who are likely to be sensitive to changes in visual amenity.

15.7.3.16 At this stage, it is not possible to fully assess the likely significant effects on visual receptors as the development parameters are still being refined. However, significant effects are anticipated for visual receptors within the ZVI located closest to the Site, with the magnitude of effect likely to reduce with increasing distance from the Proposed Development.

15.7.4 Decommissioning

15.7.4.1 The Proposed Development is intended to form a permanent part of Heathrow Airport, and no separate project-wide decommissioning phase is currently anticipated. Significant decommissioning effects are therefore not considered reasonably foreseeable at this stage and are proposed to be scoped out of the LVIA.

15.7.5 Summary of Effects Requiring Assessment

Table 15-7: Likely Significant Landscape, Townscape and Visual Effects

Activity	Effect	Receptor
Construction		
Construction activities associated with the Proposed Development, include: • Airport Runways, Terminal Buildings and Airside Support Buildings • Transport Mobility and Access • River Diversions and Flood Risk Compensation areas • Green and Blue Infrastructure • Airport Supporting Development and Displaced Uses This includes the following impact on landscape: • Changes to landform west of Heathrow Airport arising from the construction of Green and Blue Infrastructure and River and Flood Risk Infrastructure. • Changes in land use, including the permanent loss of existing agricultural land and other land uses within the Site. • Changes to field patterns and landscape structure resulting	Landscape	National Character Area: • NCA 115: Thames Valley Regional Landscape and Townscape Character Areas: • Colne Valley Regional Park: LCA 3: Cowley to West Drayton, LCA 4: Harmondsworth to Stanwell Moor, LCA 8: Horton and Wraysbury Lowlands, LCA 11: Richings Lowland, LCA 13: River Ash Corridor – Staines. • Hillingdon: TCT HI6 Historic Core, TCT HI7 Inter-war Suburb/Metroland, TCT HI11 Retail Centre, LCA HI13 Stockley Gravel Terrace Recreation, LCA HI14 Minet Gravel

Activity	Effect	Receptor
from the introduction of the Proposed Development. • Effects on vegetation, including the removal or alteration of existing hedgerows, trees and woodland, particularly ancient woodland and veteran trees. • An increase in construction-related activity, including the presence of construction plant, machinery, compounds, stockpiles, temporary infrastructure and logistics facilities. • Effects on Public Rights of Way within the Site Boundary, including temporary diversions, closures or changes to the surrounding visual environment. • Effects arising from construction activities, including the movement of plant and vehicles, workforce activity, stockpiles, construction compounds, temporary access roads and logistics facilities. • Temporary disturbance to the character and perceptual qualities of the landscape, including tranquillity, caused by construction activity, noise and movement.		Terrace Recreation, TCT HI15 Industrial and Commercial Canal Side , TCT HI16 Commercial Airport, LCA HI17 Heathrow, TCT HI18 Institutional Development, LCA HI19 Little Britain Lakes, LCA HI20 Fray Island to Stanwell Moor. • Hounslow: TCA HO1 Bedfont, TCA HO2 Feltham, TCA HO3 Hounslow West, TCA HO4, Hanworth, TCA HO5 Cranford and Heston and TCA HO7 Central Hounslow. • Spelthorne: LCA SP1 Thames Valley Reservoir, LCA SP2 Colne River Floodplain LCA, LCA SP4 Colne River Valley Floor LCA, LCA Sp6 Princes Lakes Significant Greenspaces with Urban Areas, TCA SP3 Urban, Staines & Stanwell. • Slough • Windsor and Maidenhead: LCA Wi8 Settled Developed Floodplain - Horton and Wraysbury, LCA Wi6 Settled Farmed Floodplain - Datchet, TCA Wi1 Urban (Windsor) • Buckinghamshire: LCA Bu2 Flood Plain - Colne Valley, LC Bu7

Activity	Effect	Receptor
		Mixed Use Terrace - Iver Heath • Ealing: TCA Ea5 Southall. • Richmond Upon Thames: LCA RI3 Hampton Residential LCA • Runnymede: Ru4 Urban Areas Local Landscape Designation and Green Open Space that directly interact with the Proposed Development: • Cranford Country Park, • Bedfont Lakes Country Park; • Colne Valley Regional Park; • Thorney Country Park. Registered Park and Garden: • 1466074: Stockley Park, comprising the business park (Phases I and II) Long distance route / National Trail: • Grand Union Canal Path (Paddington Arm and Slough Arm), London LOOP, Beech Way, the Thames Path National Trail and the Hillingdon Trail.
Temporary visual effects arising from construction plant, cranes, earthworks, site compounds and construction lighting associated with the Proposed Development, include:	Visual	Visual receptors within the ZVI and identified visual receptor groups: • Harmondsworth/Sipson • West Drayton/Hayes Town • Harlington

Activity	Effect	Receptor
• Airport Runways, Terminal Buildings and Airside Support Buildings • Transport Mobility and Access • River Diversions and Flood Risk Compensation areas • Green and Blue Infrastructure • Airport Supporting Development and Displaced Uses		• Cranford/ Hounslow • Feltham/Ashford • Stanwell/Staines • Sutton/Slough • Iver/Colne Valley • Wraysbury • Poyle/Coln Brooke • Richings Park/ Thorney • Cooper's Hill/Runnymede • Windsor Visual Receptors include: • Residents in surrounding settlements, • Workers at Heathrow and associated facilities; • Users of local PRoW, • Cyclists; • Users of long-distance footpaths, including the Grand Union Canal, Beech Way, Thames Walk, The King's Walk, and London LOOP, Beech Way, Hillingdon Trail • Users of the road network Visitors to public open spaces such as Country Parks and monuments: Cranford Countryside Park.
Operation		
During the operational phase, the Proposed Development result in landscape effects from the introduction of a new runway, terminal buildings, associated airport infrastructure and transport infrastructure resulting in:	Landscape	National Character Area: • NCA 115: Thames Valley Regional Landscape and Townscape Character Areas:

Activity	Effect	Receptor
• Permanent changes to landscape character arising from the introduction of the runway, terminal buildings, associated airport infrastructure and transport infrastructure. • Changes to the physical characteristics of the landscape resulting from new landforms, watercourses, flood management features and Green and Blue Infrastructure. • Changes in land use and landscape pattern within and surrounding the Site. • Effects on the experience of Public Rights of Way and recreational routes resulting from altered views and landscape context. • Effects associated with operational lighting and increased visibility of airport activity. • Changes to tranquillity and other perceptual qualities resulting from the operation of the Proposed Development, including aircraft movements and airport-related activity.		• Colne Valley Regional Park: LCA 3: Cowley to West Drayton, LCA 4: Harmondsworth to Stanwell Moor, LCA 8: Horton and Wraysbury Lowlands, LCA 11: Richings Lowland, LCA 13: River Ash Corridor – Staines. • Hillingdon: TCT HI6 Historic Core, TCT HI7 Inter-war Suburb/Metroland, TCT HI11 Retail Centre, LCA HI13 Stockley Gravel Terrace Recreation, LCA HI14 Minet Gravel Terrace Recreation, TCT HI15 Industrial and Commercial Canal Side , TCT HI16 Commercial Airport, LCA HI17 Heathrow, TCT HI18 Institutional Development, LCA HI19 Little Britain Lakes, LCA HI20 Fray Island to Stanwell Moor. • Hounslow: TCA HO1 Bedfont, TCA HO2 Feltham, TCA HO3 Hounslow West, TCA HO4, Hanworth, TCA HO5 Cranford and Heston and TCA HO7 Central Hounslow. • Spelthorne: LCA SP1 Thames Valley Reservoir, LCA SP2 Colne River Floodplain LCA, LCA SP4 Colne River Valley Floor LCA,

Activity	Effect	Receptor
		LCA Sp6 Princes Lakes Significant Greenspaces with Urban Areas, TCA SP3 Urban, Staines & Stanwell. • Slough • Windsor and Maidenhead: LCA Wi8 Settled Developed Floodplain - Horton and Wraysbury, LCA Wi6 Settled Farmed Floodplain - Datchet, TCA Wi1 Urban (Windsor) • Buckinghamshire: LCA Bu2 Flood Plain - Colne Valley, LC Bu7 Mixed Use Terrace - Iver Heath • Ealing: TCA Ea5 Southall. • Richmond Upon Thames: LCA RI3 Hampton Residential LCA • Runnymede: Ru4 Urban Areas Local Landscape Designation and Green Open Space that directly interact with the Proposed Development: • Cranford Country Park, • Bedfont Lakes Country Park; • Colne Valley Regional Park; • Thorney Country Park. Registered Park and Garden: • 1466074: Stockley Park, comprising the

Activity	Effect	Receptor
		business park (Phases I and II) Long distance route / National Trail: • Grand Union Canal Path (Paddington Arm and Slough Arm), London LOOP, Beech Way, the Thames Path National Trail and the Hillingdon Trail.
During the operational phase visual effects arising from the introduction of a new runway, terminal buildings, associated airport infrastructure and transport infrastructure resulting in • Changes to visual amenity resulting from the introduction of airport infrastructure, buildings and associated development. • Effects associated with operational lighting and increased visibility of airport activity.	Visual	Visual receptors within the ZVI and identified visual receptor groups: • Harmondsworth/Sipson • West Drayton/Hayes Town • Harlington • Cranford/ Hounslow • Feltham/Ashford • Stanwell/Staines • Sutton/Slough • Iver/Colne Valley • Wraysbury • Poyle/Coln Brooke • Richings Park/ Thorney • Cooper's Hill/Runnymede • Windsor Visual Receptors include: • Residents in surrounding settlements, • Workers at Heathrow and associated facilities; • Users of local PRoW, • Cyclists; • Users of long-distance footpaths, including the Grand Union Canal, Beech Way, Thames

Activity	Effect	Receptor
		Walk, The King's Walk, and London Loop • Users of the road network Visitors to public open spaces such as Country Parks and monuments: Cranford Countryside Parks.

15.8 Effects Not Requiring Assessment

Landscape / Townscape

15.8.1.1 The Scoping Boundary of the Proposed Development falls within three NCA. No significant effects are predicted for NCA 129: Thames Basin Heaths. Only a small proportion of the Site falls within this NCA, and the development footprint falls within existing highway corridors. As a result, the Proposed Development is unlikely to result in significant effects on the character of this NCA. Therefore, NCA 129: Thames Basin Heaths is scoped out of the assessment.

15.8.1.2 No significant effects are predicted for NCA 111: Northern Thames Basin. Although a proportion of the Site lies within this NCA, the Proposed Development is largely associated with works within existing transport corridors and within urbanised areas. As a result, it is unlikely to result in significant effects on the overall character of the NCA. Therefore, NCA 111: Northern Thames Basin is scoped out of the assessment.

15.8.1.3 As a result of the Proposed Development, no significant landscape effects are predicted for the Landscape Character Areas outside of the ZVI. The Proposed Development will have no direct effects on land within these designations; and although indirect effects may occur as a result of the Proposed Development, these are not predicted to be significant in nature given a combination of the overall distance between the designation and the Site, the general low-lying topography of the Site and presence of intervening landscape and urban fabric which collectively restrict intervisibility.

15.8.1.4 No potential landscape significant effects are predicted on the following character areas given that none lie within the Site and their separation distances from the Site:

- Landscape and Townscape Character in London Borough of Harrow;
- Landscape and Townscape Character in Elmbridge Borough;
- Landscape and Townscape Character in London Borough of Kingston Upon Thames; and
- Landscape and Townscape Character in London Borough of Brent.

15.8.1.5 No potentially significant landscape effects are predicted for Local Nature Reserves, Local Landscape Designations, and Registered Parks and Gardens within the Study Area that do not directly interact with the Proposed Development. This is due to the predominantly urban character of the existing landscape, and that the Proposed Development would be of a similar nature to the existing Heathrow Airport and associated infrastructure. As a result, the Proposed Development is unlikely to alter the key landscape characteristics or qualities of these designations. However, visual effects experienced from these locations, particularly by recreational receptors, will be considered as part of the visual assessment.

Views and Visual Amenity

15.8.1.6 No significant visual effects are predicted for visual receptors located outside the ZVI. Although views of the Proposed Development may be available from these locations, it is unlikely to result in significant effects on visual amenity due to distance, intervening landform, vegetation, and built form. Therefore, the following visual receptors are scoped out of the assessment:

- Residents and visitors of Sunbury of Thames;
- Residents and visitors of Bishopsgate;
- Residents and visitors of Chertsey; and
- Residents and visitors of Northolt.

Decommissioning

15.8.1.7 The Proposed Development is intended to be permanent. Consequently, decommissioning effects are not anticipated and have been scoped out of the assessment.

Summary of Effects Not Requiring Assessment

Table 15-8: Potential Effects to be Scoped Out of the Landscape, Townscape and Visual Assessment

Activity	Effect	Receptor	Justification for scoping out
Construction and operational phase of the Proposed Development	Landscape	NCA 129: Thames Basin Heaths NCA 111: Northern Thames Basin	Although the Proposed Development is partially located within these two NCAs, it largely follows existing highway corridors and is therefore unlikely to result in significant effects on the character of either NCA.
Construction and operational phase of the Proposed Development	Landscape and Townscape	Landscape and Townscape Area that does not directly interact with the Proposed Development: • Landscape and Townscape Character in London Borough of Harrow; • Landscape and Townscape Character in Elmbridge Borough; • Landscape and Townscape Character in London Borough of Kingston Upon Thames; and • Landscape and Townscape Character in London Borough of Brent.	The Scoping Boundary does not fall within these LCA and are located at a sufficient distance from the Proposed Development. Therefore, no significant effects are anticipated.

Activity	Effect	Receptor	Justification for scoping out
Construction and operational phase of the Proposed Development	Landscape and Townscape	Local Nature Reserves, Local Landscape Designations, and Registered Parks and Gardens within the Study Area that do not directly interact with the Proposed Development.	These designations do not directly interact with the Proposed Development. Given the predominantly urban character of the landscape and the airport-related nature of the Proposed Development, the key characteristics of these designations are unlikely to be significantly altered. Therefore, no significant effects are anticipated.
Construction and operational phase of the Proposed Development	Visual	Visual receptors located outside the ZVI: • Resident and visitors of Sunbury of Thames; • Resident and visitors of Bishopsgate; • Resident and visitors of Chertsey; and • Resident and visitors of Northolt.	No significant visual effects are predicted for visual receptors located outside the ZVI. Although views of the Proposed Development may be available from these locations, it is unlikely to result in significant effects on visual amenity due to distance, intervening landform, vegetation, and built form.

Activity	Effect	Receptor	Justification for scoping out
Construction Phase of the Proposed Development	Landscape and Townscape	National Landscape: Chilterns NL	The Chilterns National Landscape is located at a sufficient distance from the Proposed Development such that construction activities would not directly affect its character or special qualities. Therefore, no significant effects are anticipated during construction phase.

15.9 Proposed Approach to Assessment

Assessment Methodology

15.9.1.1 A summary of the proposed methodology for the LTVIA has been set out in **Appendix 15.1 Landscape, Townscape and Visual Methodology**.

15.9.1.2 In summary the LTVIA will identify and record the baseline environment through a combination of desk study and Site visits (including the worst-case winter scenario). It will consult with relevant stakeholders to agree landscape and visual assessment.

15.9.1.3 A three-stage assessment process will be adopted for the LTVIA, in accordance with GLVIA3. Firstly, the nature of receptors (sensitivity) will be assessed considering the value and susceptibility to change of the receptor.

15.9.1.4 Secondly the nature of effects (magnitude) likely to result from the Proposed Development will be assessed, considering the size or scale of change, the geographical extent of the area influenced, its duration as well as the degree of reversibility.

15.9.1.5 During this stage mitigation measures will be defined as part of the iterative design process, and these will be embedded into the design. The assessment will consider the reasonable worst case for landscape, townscape and visual receptors predicted to experience significant effects as a result of the Scheme during construction, operation and following successful establishment of the mitigation measures;

15.9.1.6 Lastly, the significance of the identified landscape and visual effects on receptors will be determined from a combination of the receptor sensitivity and the magnitude of effects, as required by the Environmental Impact Assessment (EIA) Regulations (2017).

Assessment of Landscape and Townscape Effects

15.9.1.7 This will assess how the Proposed Development will affect the components of the environment and the key characteristics which contribute to its character. A methodical consideration of each effect upon each identified landscape receptor will be undertaken, in order to determine the significance of effects, as a combination of the sensitivity of the landscape receptors and the magnitude of the effect.

15.9.1.8 The assessment of landscape receptors' sensitivity will combine judgements on the 'value' attributed to the landscape receptor and the 'susceptibility to change' of that receptor to the specific type of development proposed.

15.9.1.9 The value of potentially affected landscape receptors will be determined, including character and the individual elements or features which contribute to that

landscape character. Susceptibility of landscape receptors to change is an assessment of the landscape's ability to accommodate for the Proposed Development without materially affecting its key characteristics and/or the achievement of regeneration planning policies and strategies.

15.9.1.10 The magnitude of a landscape effect will be assessed in terms of its size or scale, the geographical extent of the area influenced and its duration and degree of reversibility.

Assessment of Effects on Views and Visual Amenity

15.9.1.11 This will assess how the Proposed Development will affect the views available to people and their visual amenity. A methodical consideration of visual effects upon each identified visual receptor will be undertaken in order to determine the significance of effects, as a combination of sensitivity of the visual receptor, or viewer and magnitude of the visual effect.

15.9.1.12 The assessment of visual receptor sensitivity will combine judgements on the value attributed to the visual receptor and the 'susceptibility to change' of the receptor to the specific type of development proposed. The value assigned to views will have regard to a number of factors, including recognition through planning or heritage assets and/or the popularity of the view location, its appearance in guidebooks, literature or art, on tourist maps, and the facilities provided to enable enjoyment of the view. Susceptibility of people to changes in views is a function of the occupation or activity of the view at a given location and the extent to which a person's attention or interest may therefore be focused on a particular view, and the visual amenity experienced.

15.9.1.13 The magnitude of a visual effect will be assessed in terms of its size or scale, the geographical extent of the area influenced and its duration and degree of reversibility. The assessment will consider the Proposed Development's contribution to the view composition, its enhancement, or contrast to the view, and whether it is a positive or negative variation to the scale and form, and the creation of, or contrast in, visual identity.

15.9.2 Additional Baseline Information Required

15.9.2.1 Further site visits will be undertaken during winter 2026/2027 to collect additional baseline information, including summer and winter verified view photography, and to establish the night-time landscape and visual baseline.

15.9.2.2 Additional baseline information relating to local landscape designations and country parks that directly interact with the Proposed Development will be collected to inform the assessment of potential landscape and visual effects.

15.9.2.3 Arboricultural survey information will be collected to inform the assessment of potential effects on trees, woodland, hedgerows and other vegetation that contribute to landscape character and visual amenity.

Cumulative Effects

15.9.2.4 The LTVIA will include a cumulative landscape, townscape and visual effects assessment (CLTVEA) that will consider the Proposed Development along with the other committed developments identified as part of the assessment process insofar as they affect landscape assets. A summary of the proposed methodology for the CLTVEA has been set out in **Appendix 15.1: Landscape, Townscape and Visual Methodology**.

15.9.2.5 Further details of the cumulative search area, development selection process and assessment methodology will be provided in **Chapter 24: Cumulative and In-combination Effects**. A long list of cumulative developments located within the cumulative search area will be identified and assigned to a tier based on their planning status and level of certainty. The long list will then be reviewed using specific inclusion and exclusion criteria, considering development scale, development type, location, temporal overlap and the potential to contribute to cumulative landscape, townscape and visual effects, to establish a shortlist of developments to be assessed.

15.9.2.6 A cumulative search area of 5km from the Proposed Development will be applied to identify developments with the potential to give rise to cumulative landscape, townscape and visual effects. This search area reflects the extent of the LTVIA Study Area and will focus on developments that are likely to contribute to perceptible changes in landscape character and views experienced by receptors within the Study Area.

15.9.2.7 The cumulative landscape and townscape assessment will consider the combined effects of the Proposed Development and other committed developments on landscape character and landscape receptors within the Study Area. The assessment will consider whether the presence of other committed development may result in additional changes to landscape and townscape character, landscape and townscape pattern, perceptual qualities and the overall appreciation of the landscape and townscape beyond those arising from the Proposed Development alone.

15.9.2.8 The cumulative visual assessment will consider the effects arising from the Proposed Development in combination with other committed developments. This will include consideration of combined views where multiple developments are visible within the same view, successive views where developments are experienced sequentially along routes or from a series of viewpoints, and the resulting changes to visual amenity experienced by visual receptors.

15.9.3 In-combination Effects

15.9.3.1 In-combination effects may arise where landscape and visual effects interact with effects in other EIA Chapters. In-combination effect will be considered for changes to landscape character, visual amenity, noise, biodiversity, recreation and the setting of heritage assets on shared receptors.

15.9.3.2 The following are topics that are consider likely to have in-combination effects with landscape and potential in-combination effects to be consider:

- **Biodiversity**, in relation to effects on green infrastructure;
- **Recreation**, in relation to effects on tranquillity, particularly in Colne Valley Regional Park, Thames Path National Trail, London Loop, Union Canal and country parks;
- **Historic Environment**, in terms of the heritage aspect of landscape and townscape, in particular in Harmondsworth, Longford, and conservation areas;
- **Noise and Vibration**, in terms of the noise aspect of tranquillity for residential and recreational receptors, and;
- **Lighting** in terms of effect of lighting outside of the night-time landscape and townscape character.

15.9.3.3 The assessment will identify any significant in-combination effects on shared receptors and will consider any relevant downstream effects arising from interactions between environmental topics.

15.9.4 Limitations and Assumptions

- In accordance with GLVIA3 and Directive 2014/52/EU, the scoping report identifies the likely significant landscape and visual effects arising from the Proposed Development, rather than identifying every conceivable landscape and visual effect;
- The LTVIA will assume the maximum parameters (height and geographical area) for the Proposed Development and the worst-case scenario;
- Baseline photography from representative view locations will be undertaken in the winter, summer and night-time scenario. The winter scenario represents a worst case, as deciduous vegetation is generally without leaves and therefore visibility is increased within the landscape;
- The design parameters of the Proposed Development are currently being developed. Consequently, the landscape and visual receptors identified at this stage, and the likely significant effects reported within this Scoping Report, may be refined as the design of the Proposed Development evolves;
- This Chapter provides baseline information on ecological and cultural heritage designations as these receptors contribute to overall judgements on landscape value. As receptors in their own right, they have been assessed within **Chapter 6: Biodiversity**, and **Chapter 13: Historic Environment** respectively; and **Chapter 20: Noise and Vibration**.
- The assessment of likely significant visual effects arising from the Proposed Development has been made from publicly accessible locations, with no assessment of private views undertaken. The planning system does not seek to protect private views in themselves, although effects on residential visual amenity may be considered separately where relevant.

15.10 Proposed Approach to Mitigation

15.10.1.1 The EIA Regulations require:

"A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment".

15.10.1.2 The Proposed Development is evolving through an iterative design process. This has included the consideration of landscape and visual impacts. A series of design principles will be embedded into the design evolution and will include the consideration of landscape and visual impacts which, given its significance as an environmental topic, will be one of the key criteria for assessment and sensitive design modification. It will also be an important component in the eventual assimilation of the Scheme within its setting.

15.10.1.3 Embedded mitigation/Primary Mitigation for the Proposed Development is likely to include the following:

- Avoid or minimise the need for clearance of existing vegetation through design and layout, particularly on sensitive habitats, wherever possible;
- Through provision of Green and Blue Infrastructure, the Proposed Development will:
- Restore or re-provide lost features;
- Support connectivity and people and nature;
- Response positively to landscape and townscape character;
- Restricting development in environmentally sensitive locations and applying appropriate development offsets and buffers from receptors, and landscape features including ancient woodland, hedgerows and watercourses.
- Reinforcement of existing field boundaries, where appropriate; and
- New soft landscape planting and features to provide visual screening, break-up of the extent of development visible, and link existing habitats to provide enhanced green infrastructure and biodiversity opportunities.

15.10.1.4 Given the iterative nature of the Proposed Development design process, landscape and visual considerations will be integrated throughout the evolution of the Scheme to avoid or minimise potential effects wherever practicable. As a result, measures that may otherwise be considered secondary mitigation are expected to be incorporated into the design process as embedded (primary) mitigation. For landscape and visual effects, opportunities to further reduce significant effects beyond those achieved through sensitive siting, layout, scale, design and landscape integration are often limited. Consequently, the assessment will place emphasis on the iterative design process and embedded mitigation measures as the primary means of avoiding and reducing effects, rather than relying on separate secondary mitigation measures following completion of the design.

15.10.1.5 An outline Landscape and Ecology Management Plan (oLEMP) and supporting landscape plans will be prepared to support the application detailing the planting strategy and its management to ensure its establishment and management.

15.11 Summary

15.11.1.1 The likely elements that could result in significant effects requiring assessment and proposed to be scoped into, and the elements not likely to result in significant effects and therefore proposed to be scoped out of the LTVIA Chapter are summarised in Table 15-9 below.

Table 15-9: Elements Scoped In/Out of Landscape, Townscape and Visual assessment

Discipline	Scoped In Elements	Scoped Out Elements
Landscape and Visual	**Landscape Receptor:** National Landscape: ○ Chilterns National Landscape National Character Area: ○ NCA 115: Thames Valley, Regional Landscape and Townscape Character Areas: ○ Colne Valley Regional Park: LCA 3: Cowley to West Drayton, LCA 4: Harmondsworth to Stanwell Moor, LCA 8: Horton and Wraysbury Lowlands, LCA 11: Richings Lowland, LCA 13: River Ash Corridor – Staines. ○ Hillingdon: LCA 16: Cranford Open Gravel Terrace, LCA 17: Harlington Open Gravel Terrace, LCA 18: Harmondsworth Open Gravel Terrace, TCT 20: Heathrow Commercial Airport, LCA 21: Heathrow Gravel Terrace Infrastructure, TCT 22: Historic Core, TCT 24: Inter-war Suburb / Metroland. ○ Hounslow: TCA 35 Bedford, TCA 36 Cranford and Heston, TCA 37 Feltham, TCA 40 Hounslow West.	**Landscape Receptor:** National Character Area: ○ NCA 129: Thames Basin Heaths ○ NCA 111: Northern Thames Basin Landscape and Townscape Area that does not directly interact with the Proposed Development: ○ Landscape and Townscape Character in London Borough of Harrow; ○ Landscape and Townscape Character in Elmbridge Borough; ○ Landscape and Townscape Character in Windsor and Maidenhead; ○ Landscape and Townscape Character in Runnymede; ○ Landscape and Townscape Character in London Borough of Richmond Upon Thames;

Discipline	Scoped In Elements	Scoped Out Elements
	○ Spelthorne: LCA 52: Princes Lakes Significant Greenspaces with Urban Areas, TCA 53: Staines, TCA 54: Stanwell. Local Landscape Designation and Green Open Space that directly interact with the Proposed Development: ○ Cranford Country Park, ○ Bedfont Lakes Country Park; ○ Colne Valley Regional Park; ○ Thorney Country Park. Registered Park and Garden: ○ 1466074: Stockley Park, comprising the business park (Phases I and II) **Visual Receptor:** Visual receptors identified within the ZVI and identified visual receptor groups: ○ Harmondsworth/Sipson ○ West Drayton/Hayes Town ○ Harlington ○ Cranford/ Hounslow ○ Feltham/Ashford ○ Stanwell/Staines ○ Sutton/Slough ○ Iver/Colne Valley ○ Wraysbury ○ Poyle/Coln Brooke ○ Richings Park/ Thorney ○ Cooper's Hill/Runnymede ○ Windsor Visual Receptors include: ○ Residents in surrounding settlements, ○ Workers at Heathrow and associated facilities; ○ Users of local PRoW, ○ Cyclists; ○ Users of long-distance footpaths, including the Grand Union Canal,	○ Landscape and Townscape Character in London Borough of Kingston Upon Thames; and ○ Landscape and Townscape Character in London Borough of Brent. Local Nature Reserves, Local Landscape Designations, and Registered Parks and Gardens within the Study Area that do not directly interact with the Proposed Development. **Visual Receptor:** Visual receptors located outside the ZVI: ○ Resident and visitors of Richmond; ○ Resident and visitors of Sunbury of Thames; ○ Resident and visitors of Bishopsgate; ○ Resident and visitors of Chertsey; ○ Resident and visitors of Northolt; and Resident and visitors of Ealing.

Discipline	Scoped In Elements	Scoped Out Elements
	Beech Way, Thames Walk, The King's Walk, and London Loop ○ Users of the road network Visitors to public open spaces such as Country Parks and monuments: Cranford Countryside Parks.	

Environmental Impact Assessment Scoping Report

Chapter 16

Ground Conditions

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Appendix 16.1: Ground Conditions Policy

16 Ground Conditions

16.1 Introduction

16.1.1.1 This Chapter of the Environmental Impact Assessment (EIA) Scoping Report has been prepared by Stantec UK Ltd. and sets out the proposed scope of the Ground Conditions assessment and how it will consider the potential effects of the Proposed Development on land contamination, designated geological sites, and land instability that may arise from the construction, operation and maintenance, and decommissioning of the Proposed Development (as described in **Chapter 2: The Proposed Development**).

16.1.1.2 This Chapter describes the proposed methodology and datasets to be used within the Ground Conditions assessment, presents a preliminary overview of the baseline conditions, and identifies the potential likely significant effects to be considered within the assessment, and how these will be assessed for the purpose of an EIA.

16.1.1.3 This chapter should be read in conjunction with:

- **Chapter 6: Biodiversity**;
- **Chapter 17: Agricultural Land and Soils**;
- **Chapter 18: Minerals and Waste**;
- **Chapter 19: Major Accidents and Disasters**; and
- **Chapter 22: Water Environment**.

16.1.1.4 This chapter is supported by the following figures:

- **Figure 16.1** Superficial Geology;
- **Figure 16.2** Bedrock Geology;
- **Figure 16.3** Historical and Permitted Landfill Sites; and
- **Figure 16.4** Groundwater Source Protection Zones.

16.1.1.5 The Ground Conditions assessment will include potential effects relating to:

- Land contamination;
- Geologically designated sites; and
- Land instability.

16.1.1.6 The Ground Conditions assessment will not include:

- The assessment of effects on surface water and groundwater in terms of the Water Framework Directive (WFD), and in terms of both surface water and groundwater levels and flow. These effects are considered in **Chapter 22: Water Environment**. The Ground Conditions Chapter will identify where ground conditions within the Scoping Boundary may impact the baseline quality of surface water and groundwater. Assessments of the potential impacts upon aquatic ecology and hydrology resulting from changes in surface water quality

are considered within **Chapter 6: Biodiversity** and **Chapter 22: Water Environment**.

- Ecological aspects including assessment of the potential effects on Groundwater Dependant Terrestrial Ecosystems (GWDTE) from changes in groundwater quality (identified in this Chapter) are considered in **Chapter 6: Biodiversity**. The potential for impacts to the groundwater supporting these ecosystems in relation to flows and/or groundwater levels are identified within **Chapter 22: Water Environment**.
- Effects on agricultural soil resources and soil quality are considered within Chapter **17: Agricultural Land and Soils**.
- Effects related to minerals safeguarding areas and existing minerals infrastructure are considered within **Chapter 18: Minerals and Waste**.

16.1.1.7 Effects relating to waste generated as a result of the construction of the Proposed Development, are considered within **Chapter 18: Minerals and Waste**.

- Effects from contamination arising from major accidents and disasters are considered within **Chapter 19**, **Major Accidents and Disasters**.

16.2 Policy, Legislation and Guidance

16.2.1.1 This section identifies the relevant topic specific policies that have informed the scope and, where relevant, the Study Areas of the assessment presented in this Chapter.

16.2.1.2 The land within the Scoping Boundary and the Study Areas spans nine Local Planning Authorities[1], with the majority of the land (by area) located within the administrative area of the London Borough of Hillingdon. The relevant adopted and emerging local planning policies applicable to each host authority have been reviewed and are summarised in **Table 16-1**, with a detailed description of the relevant sections of each policy and how the ES will address the requirements of the policy provided in **Appendix 16.1**.

[1] London Borough of Hillingdon, London Borough of Hounslow, London Borough of Ealing, London Borough of Richmond upon Thames, Royal Borough of Windsor and Maidenhead, Spelthorne Borough Council, Slough Borough Council, Buckinghamshire Council and Runnymede Borough Council.

Table 16-1: Policy relevant to the Ground Conditions assessment

Relevant Policy	Relevance to assessment
Policy – National	
Airports National Policy Statement[2] (ANPS): new runway capacity and infrastructure at airports in the south-east of England (published June 2018)	The ANPS sets out the requirements for applicants to: • Set out likely significant effects on Designated sites of geological importance and show how the project has taken advantage of and maximised opportunities to conserve and avoid harm to geological conservation interests; • Ensure that the site is suitable for its intended use in respect of contamination, including compliance with the statutory regime contained in Part IIA of the Environmental Protection Act 1990 and relevant Government guidance relating to or dealing with contaminated land; • Describe and assess the impacts of the proposed project on water quality, water resources and physical characteristics as part of the environmental statement; and • Ensure that land is suitable for use in respect of land stability, including undertaking a preliminary assessment of ground instability and ensure that any necessary investigations are undertaken to confirm that their sites are and will remain stable, or can be made so as part of the development.
Draft Heathrow Expansion National Policy Statement[3] (HENPS) (published 18th June 2026, updated 22nd June 2026)	The Draft HENPS sets out the requirements for applicants to: • Show how the project has taken advantage of opportunities to conserve

[2] Department for Transport. Airports National Policy Statement. 2018. Available at: https://www.gov.uk/government/publications/airports-national-policy-statement. (accessed on: 10/06/2026).
[3] Department for Transport. Draft Heathrow Expansion National Policy Statement. 2026. Available at: https://www.gov.uk/government/publications/draft-heathrow-expansion-national-policy-statement. (accessed on: 22/06/2026).

Relevant Policy	Relevance to assessment
	and enhance, and avoid harm to geological conservation interests; • Ensure that a site is suitable for its proposed use, taking account of ground conditions and any risks arising from contamination (in accordance with the contaminated land statutory guidance as a minimum). Undertake appropriate remediation of land affected by contamination such that, as a minimum, the land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990; • Ensure that assessments take into account the Government's PFAS plan and any legislative changes in this respect that affect planned airport operations; • Describe and assess the impacts of the proposed project on water quality, water resources and physical characteristics as part of the environmental statement; and • Assess the effects of land instability, subsidence and any other relevant ground condition impacts arising from the development. This should include a preliminary assessment of ground instability alongside any necessary investigations to confirm that the site will remain stable, or can be made so as part of the development.
National Networks National Policy Statement[4] (NNNPS) (published March 2024, last updated May 2024)	The NNNPS sets out the requirements for: • Proposals to be appropriate for the location, including preventing unacceptable risks from land contamination or instability, with appropriate assessments carried out where these issues are identified;

[4] Department for Transport. National Networks National Policy Statement. 2024. Available at: https://www.gov.uk/government/publications/draft-heathrow-expansion-national-policy-statement. (accessed on: 10/06/2026).

Relevant Policy	Relevance to assessment
	• The assessment of contamination to be undertaken on previously developed land in accordance with the Environment Agency's Land Contamination Risk Management guidance; and • A preliminary assessment of land ground instability is prepared, with any necessary investigations undertaken to confirm that the site will remain stable, or can be made so as part of the development.
National Planning Policy Framework[5] (NPPF) (published August 2026)	The NPPF requires that developments should: • Be suitable for their proposed use taking into account ground conditions, including any risks arising from land instability and contamination. Applications for development should consider the extent to which any such risks can be mitigated, and the potential impacts on the natural environment arising from remediation. Where land is remediated it should, as a minimum, not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990; • Be informed by adequate site assessment information, prepared by a competent person; and • Support the conservation of sites of geodiversity value, and should not adversely affect Sites of Special Scientific Interest or sites designated as a local geological site or equivalent in the development plan.
Policy – Regional	

[5] Ministry of Housing, Communities and Local Government. National Planning Policy Framework. 2026. Available at: https://www.gov.uk/guidance/national-planning-policy-framework (accessed on: 17/08/2026).

Relevant Policy	Relevance to assessment
The London Plan[6] (published March 2021)	The London Plan sets out the requirements for: • London Boroughs to "take appropriate measures to deal with contamination that may exist"; and • Development proposals should "seek to improve the water environment". • Development proposals to protect and enhance geodiversity, and protect geologically designated sites.
The London Plan (Draft)[7] (2026)	The draft London Plan sets out the requirements for development proposals to make a positive contribution to the protection and enhancement of geodiversity, avoiding harm to geologically designated sites.
Policy – Local	
London Borough of Hillingdon Local Plan Part 1 – Strategic Policies[8] (adopted November 2012)	The London Borough of Hillingdon Local Plan Part 1 sets out the requirements for new development proposals to: • Preserve and enhance geologically designated sites; • Provide mitigation against the impacts of contamination on surrounding land; and • Demonstrate a sustainable approach to remediation, including the reduction of off-site disposal to landfill.
London Borough of Hillingdon Local Plan Part 2 – Development Management Policies[9] (adopted January 2020)	The London Borough of Hillingdon Local Plan Part 2 sets out the requirements for new development proposals to:

[6] Mayor of London. The London Plan. 2021. Available at https://www.london.gov.uk/programmes-strategies/planning/london-plan/london-plan-2021 (accessed on: 10/06/2026).
[7] Mayor of London. The London Plan (Draft). 2026. Available at https://www.london.gov.uk/programmes-strategies/planning/london-plan/next-london-plan/draft-london-plan-consultation/draft-london-plan-consultation-resources/draft-london-plan (accessed on: 10/06/2026).
[8] London Borough of Hillingdon. Local Plan: Part 1 – Strategic Policies. 2012. Available at: https://pre.hillingdon.gov.uk/planning-policy/local-plan-review (accessed on: 10/06/2026).
[9] London Borough of Hillingdon. Local Plan: Part 2 – Development Management Policies. 2020. Available at: https://pre.hillingdon.gov.uk/planning-policy/local-plan-review (accessed on: 10/06/2026).

Relevant Policy	Relevance to assessment
	• Retain and enhance any existing features of geological value. Applicants must submit appropriate surveys and assessments to demonstrate that the proposed development will not have unacceptable effects; • Assess any risk to groundwater resources and demonstrate that these would be protected throughout the construction and operational phases of development; and • Demonstrate that contamination issues have been adequately assessed and the site can be safely remediated so that the development can be made suitable for the proposed use. Where initial studies reveal potentially harmful levels of contamination, either to human health or controlled waters and other environmental features, full intrusive ground investigations and remediation proposals will be expected prior to any approvals.
London Borough of Hounslow Local Plan Volume 1[10,11] (adopted 2015)	The London Borough of Hounslow Local Plan Volume 1 sets out the requirements for new development proposals to: • Present adequate site investigation information, including an assessment of the site's history, potential contamination sources, pathways and receptors, and where appropriate, physical investigation, chemical testing, assessment of ground gas risks and assessments of risks to groundwater; • Present proposals for the control of any risks from contamination that may be present and demonstrate that following completion the risks from

[10] London Borough of Hounslow. Local Plan 2015 – 2030 – Volume 1. 2015. Available at: https://www.hounslow.gov.uk/local-plan/local-plan-1 (accessed on: 10/06/2026).
[11] Volume 2 of the Hounslow Local Plan provides site allocations only, and does not provide any relevant policy. The only allocated site within the Scoping Boundary is Site 58: Rectory Farm which is allocated for mineral development and is discussed in **Chapter 18: Materials and Waste**.

Relevant Policy	Relevance to assessment
	contamination have been controlled effectively; • Demonstrate that contamination has not been caused during development, including demonstrating that imported materials are of suitable quality; • Have regard to sustainability considerations where remediation is required, including controlling the quantities of material removed from or imported to the site; and • Ensure that the contamination of water is avoided, and where possible include measures to improve water quality through sustainable design and construction. • Avoid adverse impacts to designated sites, including sites designated for their geological value.
London Borough of Hounslow Local Plan 2020 – 2041 – Proposed Submission Version (Regulation 19)[12] (July 2024)	The emerging London Borough of Hounslow Local Plan mirrors the requirements of the current plan (as described above) in relation to contamination, land instability and geodiversity.
London Borough of Ealing Local Plan – Development Strategy 2026 Development Plan Document[13] (adopted April 2012)	The London Borough of Ealing does not appear to have any policies in any of its current or emerging plans that relate directly to contamination or geodiversity.
London Borough of Richmond Upon Thames Local Plan (2024 to 2039)[14] (adopted October 2025)	The London Borough of Richmond Upon Thames Local Plan sets out the requirements for new developments to: • Protect the quality of rivers and groundwater by demonstrating that there will be no potential contamination of surface or ground water;

[12] London Borough of Hounslow. Hounslow Local Plan 2020 – 2041, Proposed Submission Version (Regulation 19). 2024. Available at: https://www.hounslow.gov.uk/local-plan/local-plan-review/6 (accessed on: 10/06/2026).
[13] London Borough of Ealing. Development Strategy 2026 Development Plan Document. 2012. Available at: https://www.ealing.gov.uk/downloads/download/7530/development_or_core_strategy_dpd (accessed on: 10/06/2026).
[14] London Borough of Richmond upon Thames. Richmond upon Thames Local Plan (2024 – 2039). 2025. Available at: https://www.richmond.gov.uk/adopted_local_plan (accessed on: 10/06/2026).

Relevant Policy	Relevance to assessment
	• Assess contamination risks, and undertake mitigation or remediation as necessary so that new development does not pose an unacceptable risk to water quality; and • Not cause harm to designated geodiversity sites, and to seek to restore and enhance the geological interest where possible.
Spelthorne Local Plan 2024 – 2039/40[15] (adopted March 2026)	The Spelthorne Local Plan sets out the requirements for: • Applicants to undertake appropriate land contamination risk assessment and if necessary, remediation to ensure the development is safe or will be made safe for its intended use; and • Applicants to demonstrate the investigation and remediation of contamination has been carried out appropriately to a standard sufficient to enable the development to be safely occupied.
Royal Borough of Windsor and Maidenhead – Borough Local Plan 2013 – 2033[16] (adopted February 2022)	The Royal Borough of Windsor and Maidenhead – Borough Local Plan sets out the requirements for: • Development proposals to not cause unacceptable harm to the quality of groundwater, including Source Protection Zones, and to not have a detrimental effect on the quality of surface water; • Development proposals to demonstrate how they will achieve remedial or preventative measures; • Development proposals to demonstrate that there will be no harm arising from the contamination to the health of future users or occupiers of the site or

[15] Spelthorne Borough Council. Spelthorne Local Plan 2024 – 2039/40. 2026. Available at: https://www.spelthorne.gov.uk/page/1383/local-plan-march-2026 (accessed on 10/06/2026).
[16] Royal Borough of Windsor and Maidenhead. Borough Local Plan 2013 – 2033. 2022. Available at: https://www.rbwm.gov.uk/planning-and-building-control/planning-policy/development-plan/adopted-local-plan (accessed on 10/06/2026).

Relevant Policy	Relevance to assessment
	neighbouring land, and that the proposals will not cause unacceptable harm to the environment; and • Development proposals to demonstrate that adequate and effective remedial measures to remove the potential harm to human health and the environment are successfully mitigated will be undertaken, where required.
Slough Local Development Framework Core Strategy 2006 – 2026 Development Plan Document[17] (adopted December 2008)	The Slough Local Development Framework Core Strategy sets out the requirements for developments to not cause contamination or a deterioration in land, soil or water quality.
South Bucks Core Strategy Development Plan Document[18] (adopted February 2011) and South Bucks District Local Plan[19] (adopted March 1999)	Following the combining of the various Buckinghamshire Local Planning Authorities (LPAs) into Buckinghamshire Council in 2020, and prior to the completion and adoption of the Buckinghamshire Local Plan, the policies in the pre-existing South Bucks Core Strategy remain in force. The South Bucks Core Strategy Development Plan Document states that "*The Council will seek to ensure the prudent and sustainable management of the District's environmental resources by… Protecting and enhancing water quality and encouraging the remediation of land affected by contamination to bring it back to beneficial use*". The South Bucks Local Plan states that "*Development will not be permitted which would be likely, directly or indirectly, to destroy or have a significantly adverse*

[17] Slough Borough Council. Slough Local Development Framework Core Strategy 2006 – 2026 Development Plan Document. 2008. Available at: https://www.slough.gov.uk/downloads/download/581/development-plan-core-strategy-2006---2026 (accessed on 10/06/2026).
[18] South Bucks District Council. South Bucks Local Development Framework Core Strategy Development Plan Document. 2011. Available at: https://media.buckinghamshire.gov.uk/documents/South_Bucks_Core_Strategy_-_Adopted_February_2011_bb48FA7.pdf (accessed on 10/06/2026).
[19] South Bucks District Council. South Bucks District Local Plan. 1999. Available at: https://media.buckinghamshire.gov.uk/documents/South_Bucks_local_plan_j4D6YG4.pdf (accessed on: 10/06/2026).

Relevant Policy	Relevance to assessment
	effect on the geological interests of any Site of Special Scientific Interest, Regionally Important Geological/Geomorphological site or other site of geological importance".
Local Plan for Buckinghamshire, Draft Plan Consultation Part B – Development Management Policies[20] (October 2025)	The Local Plan for Buckinghamshire, Draft Plan Consultation Part B – Development Management Policies document sets out the requirements for: • Development proposals to not adversely affect the water quality of surface or underground water bodies; • Developments affecting principal aquifers, including the Chalk Aquifer, or within the county's Drinking Water Safeguard Zones (surface water) or Source Protection Zones to demonstrate that surface water and groundwater are adequately protected to prevent a deterioration of water quality and pollution of the water source; • Restrictions on deep penetrative foundation methods for developments within a Groundwater SPZ, if contamination is encountered; and • Development on or near land that is or may be affected by contamination to be informed by an appropriate contaminated Land Assessment and where contamination is found which would pose an unacceptable risk to people's health, the natural environment or water quality, the applicant to undertake an intrusive site investigation, remedial measures and a validation report to ensure that the site is suitable for the proposed use and that the development can safely proceed.

[20] Buckinghamshire Council. Part B Development Management Policy - Draft Local Plan for Buckinghamshire (Reg 18). 2025. Available at: https://buckinghamshire.oc2.uk/document/101/2090 (accessed on 10/06/2026).

Relevant Policy	Relevance to assessment
Runnymede 2030 Local Plan[21] (adopted July 2020)	The Runnymede 2030 Local Plan sets out requirements for: • Development proposals on land which is suspected of being affected by historical or current land contamination to investigate the nature and risk of the contamination both to the development proposal and to the wider environment; • Where contamination is revealed, a scheme of remediation to be undertaken such that the land and where necessary groundwater will be remediated to the point where it no longer meets the definition of statutory contaminated land; and • Development proposals that affect national, regional or locally protected sites to follow a hierarchy of mitigation so damage to geodiversity receptors is first avoided, then mitigated on-site and finally, as a last resort and where acceptable, offset.

Table 16-2: Legislation relevant to the Ground Conditions assessment

Relevant Legislation	Relevance to assessment
Legislation - National	
Environmental Protection Act 1990[22]	Legislation on contaminated land is principally contained in Part 2A of the Environmental Protection Act 1990, which was inserted into the 1990 Act by section 57 of the Environment Act 1995. The contaminated land regime under Part 2A of the Environmental Protection Act 1990 establishes a legal framework for dealing with contaminated land in England. It works alongside planning rules to help

[21] Runnymede Borough Council. Runnymede 2030 Local Plan. 2020. Available at: https://www.runnymede.gov.uk/planning-policy/runnymede-2030-local-plan (accessed on 10/06/2026).
[22] HMSO. Environmental Protection Act 1990. 1990. Available at: https://www.legislation.gov.uk/ukpga/1990/43/contents (accessed on 10/06/2026).

	ensure that this land is made suitable for use following redevelopment.
Environmental Damage (Prevention and Remediation) Regulations 2015[23]	The Environmental Damage (Prevention and Remediation) Regulations 2015 aim to prevent new land contamination that will damage water or health. These regulations also include enforcement procedures, including criminal sanctions, for breaches of the regulations.
Environmental Permitting (England and Wales) Regulations 2016[24]	The Environmental Permitting (England and Wales) Regulations 2016 cover the licencing of landfills sites and waste management activities, surface waters and groundwater abstractions and protect water resources through SPZs.
Water Resources Act 1991 (as amended by the Water Act 2003)[25]	The Water Resources Act 1991 aims to maintain and improve the quality of Controlled Waters (as defined in Part III of the Act). Part II of the Act covers the licencing of surface water and groundwater abstractions.
The Groundwater (England and Wales) Regulations 2009[26]	The Groundwater (England and Wales) Regulations 2009 cover potential groundwater contamination that could eventuate from spillages or disturbance of contaminated ground.

[23] HMSO. Environmental Damage (Prevention and Remediation) Regulations 2015. 2015. Available at: https://www.legislation.gov.uk/uksi/2015/810/contents (accessed on 10/06/2026).
[24] HMSO. Environmental Permitting (England and Wales) Regulations 2016. 2016. Available at: https://www.legislation.gov.uk/uksi/2016/1154/contents (accessed on 10/06/2026).
[25] HMSO. Water Resources Act 1991 (as amended by the Water Act 2003). 2003. Available at: https://www.legislation.gov.uk/ukpga/2003/37/contents (accessed on 10/06/2026).
[26] HMSO. The Groundwater (England and Wales) Regulations 2009. 2009. Available at: https://www.legislation.gov.uk/uksi/2009/2902/contents/made (accessed on 10/06/2026).

Table 16-3: Guidance relevant to the Ground Conditions assessment

Relevant Guidance	Relevance to assessment
Guidance – National	
Land Contamination Risk Management[27] (published October 2020, updated June 2025).	LCRM provides a framework for the assessment of land contamination risks. It describes the tiered process by which risks should be assessed, progressing from a desk-based (Tier 1) Preliminary Risk Assessment, through a Tier 2 Generic Quantitative Risk Assessment and where necessary, to a Tier 3 Detailed Quantitative Risk Assessment. The processes for identifying remediation options and reporting the verification of remediation that has been undertaken are also described.
Environmental Protection Act 1990: Part 2A – Contaminated Land Statutory Guidance[28] (published April 2012).	The Statutory Guidance that accompanies Part 2A of the Environmental Protection Act 1990 provides a definition of what constitutes 'contaminated land' and sets out the responsibilities of the Local Planning Authority and the Environment Agency in the identification and management of contaminated land. The guidance also provides a definition of 'risk', where a risk is said to be a combination of '(a) the likelihood that harm, or pollution of water, will occur as a result of contaminants in, on or under the land; and (b) the scale and seriousness of such harm or pollution if it did occur'.
CIRIA Report 522: Contaminated Land Risk Assessment, A Guide to Good Practice[29] (published January 2001).	CIRIA Report 522 describes the contaminated land risk assessment process through the stages of hazard identification, hazard assessment, risk estimation and risk evaluation) as well as the development of the Conceptual Site

[27] Environment Agency. Land Contamination Risk Management. 2025. Available at: https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm. (accessed on: 10/06/2026).
[28] DEFRA. Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance. 2012. Available at https://www.gov.uk/government/publications/contaminated-land-statutory-guidance. (accessed on: 10/06/2026).
[29] CIRIA. Report C552 Contaminated Land Risk Assessment, a Guide to Good Practice. 2001.

Relevant Guidance	Relevance to assessment
Guidance – National	
	Model (CSM). It also provides a framework for estimating the potential severity (consequence) of a risk, the probability (likelihood) of a risk occurring, and descriptions of the classifications of risk that result from the assessment.
CIRIA Report 665: Assessing Risks Posed by Hazardous Ground Gases to Buildings[30] (published 2007).	CIRIA Report 665 provides "*advice on the assessment and mitigation of potentially hazardous ground gases with respect to buildings and their occupants. The advice covers both residential and commercial development and is focused on proposals for new build. However, it is also relevant to existing buildings and structures which may have been constructed without proper recognition of their foundation on a potentially hazardous gas regime. The advice in this publication will be relevant to the regulator's assessment in carrying out duties under Part IIA of the Environmental Protection Act 1990*".
BS 10175:2026 Investigation of potentially contaminated sites – Code of practice[31] (published January 2026).	BS 10175 "*gives recommendations for, and guidance on, the investigation of land potentially affected by contamination and land with naturally elevated concentrations of potentially harmful substances, to determine or manage any risks. In order to obtain scientifically robust data on soil, groundwater, surface water and ground gas contamination it covers: a) setting the objectives of an investigation; b) developing a strategy for the investigation; c) designing the different phases of the investigation; d) sampling and field testing; e) laboratory analysis; and f) reporting*".

[30] CIRIA. Report C665 Assessing risks posed by hazardous ground gases to buildings. 2007.
[31] British Standards Institution. BS 10175:2026 Investigation of potentially contaminated sites - code of practice. 2026.

Relevant Guidance	Relevance to assessment
Guidance – National	
Design Manual for Roads and Bridges (DMRB), LA 109: Geology and soils[32] (published October 2019).	DMRB LA 109 provides a framework for assessing and managing the environmental effects of highway construction associated with geology and soils resulting in: 1) effects on bedrock geology and superficial deposits, including geological designations and sensitive / valuable non-designated features; 2) effects on soil resources; and 3) effects from contamination on human health, surface water and groundwater. Whilst it is recognised that the Proposed Development is not a highways scheme, the framework described in DMRB LA 109 is considered suitable for use in assessing the effects associated with the Proposed Development.
DMRB, LA 113: Road drainage and the water environment[33] (published March 2020).	This document describes the requirements for assessment and management of the impacts that road projects can have on the water environment. It sets out the requirements associated with the assessment and management of potential environmental impacts on the water environment from highway construction, operation, improvement and maintenance. Whilst it is recognised that the Proposed Development is not a highways scheme, the framework described in DMRB LA 113 is considered suitable for use in assessing the effects associated with the Proposed Development.

[32] Highways England. Design Manual for Roads and Bridges LA 109 – Geology and soils. 2019. Available at: https://www.standardsforhighways.co.uk/tses/attachments/by-attachment-id/322131ba-f801-43d0-8597-472e60c53128?inline=true. (accessed on: 10/06/2026).
[33] Highways England. Design Manual for Roads and Bridges LA 113 - Road drainage and the water environment. 2020. Available at: https://www.standardsforhighways.co.uk/tses/attachments/by-attachment-id/02e8dce4-f853-4f27-8ea4-a83c57343c12?inline=true. (accessed on: 10/062026).

Relevant Guidance	Relevance to assessment
Guidance – National	
NHBC, Guidance for the Safe Development of Housing on Land Affected by Contamination[34] (published 2008).	This guidance aims to "*1. To provide concise, accessible advice which is useful, practical and readily capable of implementation by all parties; 2. To describe both the process and examples of good practice in the risk based approach to the assessment of land affected by contamination (but also pitfalls to avoid); 3. To facilitate safe development by the production of consistent procedures, the improvement of data acquisition, interpretation and presentation; 4. To outline the roles and responsibilities of the various parties (e.g. the local authority regulator, the Environment Agency etc.); and 5. To encourage early liaison and a co-operative partnership approach between developers, advisors and regulators*"… "*The guidance, whilst written to be relevant to housing development on such sites, is also generally applicable to other forms of development, to existing developments and to undeveloped land, where such sites are on land affected by contamination*".

16.3 Stakeholder Engagement

16.3.1.1 Stakeholder engagement has been undertaken for the purposes of presenting the approach that is proposed for the Ground Conditions assessment, and to identify and obtain relevant baseline information.

16.3.1.2 **Table 16-4** below summarises the consultation with relevant authorities and stakeholders that has taken place up to the publication of this Chapter and the future engagement that will take place throughout the Development Consent Order (DCO) application process.

[34] National House Building Council. R&D Publication 66 – Guidance for the Safe Development of Housing on Land Affected by Contamination. 2008.

Table 16-4: Engagement with stakeholders

Consultee	Engagement undertaken to date	Proposed future engagement
Environment Agency	A Freedom of Information (FoI) request was sent by email to the Environment Agency on 1st July 2026 for environmental information (anything additional to the Environment Agency's published "historic landfill sites" dataset[35], e.g., ground investigation reports, further information about wastes received, or groundwater, landfill gas or landfill leachate monitoring data) for 46No. historical landfill sites.	This information has not been received at time of writing, and we will continue to engage with the Environment Agency to obtain relevant information and assist the Environment Agency in understanding our requirements.
Environment Agency	A FoI request was sent by email to the Environment Agency on 1st July 2026 for the below information for each of 21No. permitted landfill sites. • Environmental Permit; • Hydrogeological Risk Assessment; • Stability Risk Assessment; • Landfill Gas Risk Assessment; • Landfill Gas Management Plan; • Leachate Management Plan; • As built and Construction Quality Assurance (CQA) records for any basal, side wall and capping systems constructed; • As built and CQA records and reports for any leachate and landfill gas management systems; • Any ground investigation reports; • Any groundwater, leachate and ground gas monitoring information, for both in-waste and perimeter boreholes; and	This information has not been received at time of writing, and we will continue to engage with the Environment Agency to obtain relevant information and assist the Environment Agency in understanding our requirements.

[35] See definition in **Section 16.6.4**.

Consultee	Engagement undertaken to date	Proposed future engagement
	• Details of any enforcement actions.	
Environment Agency	A follow-up FoI request was sent by email to the Environment Agency on 11th August 2026. This request was limited to a "Priority 1" set of five historical and seven permitted landfills, and a "Priority 2" set of ten historical and three permitted landfills. The data requested was the same as above, with the exception of ground investigation information and groundwater, leachate and ground gas monitoring information for permitted landfills.	This information has not been received at time of writing, and we will continue to engage with the Environment Agency to obtain relevant information and assist the Environment Agency in understanding our requirements.
Environment Agency	A 'thematic meeting' was held with the Environment Agency on 9th September 2026. This meeting covered: • Introduction to Ground Conditions topic and elements of the EIA covered within the Ground Conditions ES Chapter; • Proposed methodology to be used in the Ground Conditions ES Chapter; • Historical and permitted landfill context and likely interactions between landfills and elements of the Proposed Development; and • Baseline information, including approach to ground investigation and the limitations of the baseline information that will be available up to submission.	Further meetings will be undertaken following Scoping as the design of the Proposed Development evolves. Topics that may be discussed at future meetings include issues related to redevelopment of specific landfills, interactions with sites for which an Environmental Permit has been issued, permitted groundwater abstractions etc.
London Borough of Hillingdon	FoI requests for information were sent by email on 11th August 2026 to the Local	Thematic meetings will be held with

Consultee	Engagement undertaken to date	Proposed future engagement
London Borough of Hounslow London Borough of Ealing London Borough of Richmond upon Thames Spelthorne Borough Council Royal Borough of Windsor and Maidenhead Slough Borough Council Buckinghamshire Council Runnymede Borough Council	Planning Authorities whose boundaries are crossed by the Study Area (see below). To account for potential future variances in the Scoping Boundary, data was requested within a polygon defined by the maximum extent of the Scoping Boundary (as they stood at the time of enquiry) plus 1km. The information requested comprised: • Mapping/location of any private water supplies, including the source stratum, abstraction well details (details of lining etc) and use if available; and • Mapping of any potentially contaminated sites.	the Local Planning Authorities pre-and post-scoping as required and as the design of the Proposed Development evolves. Topics that may be discussed at future meetings include interactions between the Proposed Development and specific landfills and private water supplies.

16.4 Study Areas

16.4.1 Study Area

16.4.1.1 For the purpose of establishing the baseline conditions, the following Study Areas have been defined.

- Land Contamination – The Study Area for identification of land-use activities with the potential to generate contamination comprises the Scoping Boundary plus a 250m buffer;
- Land Instability – The Study Area for identification of potential land instability hazards comprises the Scoping Boundary plus a 250m buffer;
- Geologically Designated Sites - The Study Area for identification of geologically designated sites comprises the Scoping Boundary only, due to the potential for physical disturbance (damage/destruction) being limited to within the Scoping Boundary; and
- Hydrogeology and hydrology - The Study Area for baseline information (e.g. SPZ, water abstractions, watercourses etc.) has been defined as the Scoping Boundary plus a 500m buffer, due to the mobile nature of groundwater and the

corresponding potential for the Proposed Development to affect receptors at a greater distance.

16.4.1.2 The Study Areas are based on professional judgement, knowledge of similar projects and the guidance in DMRB LA 109 and LA 113. On this basis, and given the scale and nature of the Proposed Development, this is considered a robust yet proportionate approach

16.4.1.3 The Study Areas will be refined throughout the development of the Proposed Development; ultimately comprising the land contained within the Order Limits defined in the DCO application, plus the buffer zones defined above.

16.5 Sources of Data used in Scoping

16.5.1 Baseline Sources

16.5.1.1 The preliminary baseline assessment has been informed by a review of the information sources and guidance documents described in **Table 16-5** below.

16.5.1.2 The information review that has been undertaken to inform this Chapter is considered sufficient to provide an initial understanding of the baseline conditions for the purposes of scoping.

Table 16-5: Data sources used for scoping

Source	Relevance to the assessment
Site reconnaissance walkover	Walkover surveys of publicly accessible parts of the Scoping Boundary, primarily focussing on the area to the west of the airfield, were undertaken between 29th June and 1st July 2026, and on 25th August 2026 to observe existing conditions.
Historic England, Historical Aerial Imagery	Historical aerial imagery provides information about historical land use within the Land Contamination Study Area.
Google Earth, Historical Aerial Imagery	Historical aerial imagery provides information about historical land use within the Land Contamination Study Area.
British Geological Survey (BGS) 1:50,000 scale and 1:10,000 scale geological mapping	Provides geological information, including the superficial deposits, bedrock geology and artificial ground.

Source	Relevance to the assessment
BGS GeoIndex Viewer	Provides geological mapping, the locations and records of historical exploratory holes within the BGS' archive, and the locations of water wells within the BGS' 'water wells' dataset.
Natural England, Designated Sites View	Provides the citations (reasons) for designations of Sites of Special Scientific Interest (SSSI).
DEFRA, Multi-Agency Geographic Information for the Countryside (MAGIC) viewer	The MAGIC website provides geographic information about the natural environment from across government, including the locations of sensitive sites such as SSSI, SPAs, SACs, designated ancient woodlands etc., as well as groundwater source protection zones, and groundwater and surface water drinking water protection areas.
6Alpha Ltd., Detailed Unexploded Ordnance (UXO) Threat and Risk Assessment with Risk Mitigation Strategy	A UXO desk study had been obtained to obtain preliminary details of the risk associated with UXO within the Land Contamination Study Area.
Joint Nature Conservation Committee (JNCC) Geological Conservation Review (GCR) Site lists	Provides information and locations of GCR sites.
London Geodiversity Partnership (LGP)	The LGP website presents information on and the locations of Locally Important Geological Sites (LIGS) and Regionally Important Geological Sites (RIGS) within Greater London.
Surrey Nature Partnership, Register of Sites of Nature Conservation Importance (SNCI) and RIGS.	The register of SNCI and RIGS presented on the Surrey Nature Partnership website provides the names and location of the RIGS in Surrey, sub-divided by Local Planning Authority area.
Berkshire Geoconservation Group	The Berkshire Geoconservation Group website presents a map showing the locations of LGS across Berkshire, alongside an information sheet for each LGS.
Buckinghamshire and Milton Keynes Environmental Records Centre (BMERC)	The BMERC hold the details and locations of LGS within Buckinghamshire.

16.6 Baseline Conditions

16.6.1 Geology Baseline

Published Geology

Superficial Deposits

16.6.1.1 The superficial geology indicated by published geological mapping (BGS 1:50,000 scale geological maps[36,37,38,39] and GeoIndex Viewer[40,41]) to be present within the Hydrogeology and Hydrology Study Area is presented in **Table 16-6** below and shown on **Figure 16.1 Superficial Geology.**

Table 16-6: Superficial Deposits, as Recorded by the BGS

Stratum	Description[42]	Present Within Hydrogeology and Hydrology Study Area within[43]…
Head Deposits	In general, Head Deposits occur on the flanks and floors of valleys. These deposits are typically extremely variable in lithology, but their composition closely reflects the source. The Head Deposits in this region are typically derived from the River Terrace Deposits and the London Clay Formation, and are therefore variably sandy, gravelly and clayey in composition. The BGS record that the Head Deposits are typically less than 2m thick.	LBHo, BC

[36] BGS. 1:50,000 Scale Geological Map (Solid and Drift Edition) Sheet 255, Beaconsfield. 2005.
[37] BGS. 1:50,000 Scale Geological Map (Bedrock and Superficial Edition) Sheet 256, North London. 2006.
[38] BGS. 1:50,000 Scale Geological Map (Solid and Drift Edition) Sheet 269, Windsor. 1999.
[39] BGS. 1:50,000 Scale Geological Map (Solid and Drift Edition) Sheet 270, South London. 1998.
[40] BGS. GeoIndex Onshore Viewer. Available at: https://mapapps2.bgs.ac.uk/geoindex/home.html. 2026. (accessed on: 10/06/2026).
[41] Including a review of historical exploratory hole records.
[42] Generic description as provided within the BGS's Lexicon of Named Rock Units – BGS. BGS Lexicon of Named Rock Units. 2026. Available at: https://webapps.bgs.ac.uk/lexicon/ (accessed on: 10/06/2026).
[43] Acronyms defined as follows. LBHi = London Borough of Hillingdon, LBHo = London Borough of Hounslow, LBE = London Borough of Ealing, SpBC = Spelthorne Borough Council, RBWM = Royal Borough of Windsor and Maidenhead, SlBC = Slough Borough Council, BC = Buckinghamshire Council, RBC = Runnymede Borough Council

Stratum	Description[42]	Present Within Hydrogeology and Hydrology Study Area within[43]…
Alluvium	Alluvium consists largely of silty clay and clayey silt with locally developed beds of sand. Layers or lenses of peat may locally be present. The thickness of an Alluvial deposit will typically increase in proximity with the watercourse from which it is derived.	LBHo, SpBC, RBWM, SIBC, BC, LBHi, RBC
Langley Silt Member	The Langley Silt Member typically comprises a brown to yellowish brown silt "brickearth" which occurs in variable thicknesses of up to approximately 2m across the region.	LBHo, SpBC, RBWM, SIBC, BC, LBHi, LBE, RBC
Shepperton Gravel Member Kempton Park Gravel Member Taplow Gravel Member Lynch Hill Gravel Member Boyn Hill Gravel Member	These strata are collectively referred to as River Terrace Deposits and typically comprise variable proportions of sand and gravel. The thickness of these deposits is variable, the BGS' memoir for Sheet 270[44] provides the following estimates: • Kempton Park Gravel Member – 5m to 8m; • Taplow Gravel Member – 4.5m to 6.5m; • Lynch Hill Gravel Member – 4m to 7.5m; and • Boyn Hill Gravel Member – 4m to 6m.	RBWM, SpBC, SIBC, BC, LBHi, RBC LBHo, SpBC, RBC LBHo, SpBC, RBWM, SIBC, BC, LBHi, LBE, LBRUT LBHo, BC, LBHi, LBE LBHi, BC

16.6.1.2 The Shepperton, Kempton Park, Taplow and Lynch Hill Gravel Members are all "River Terrace Deposits" associated with the River Thames, the River Colne and the Wraysbury River.

[44] BGS. Geology of London: Special Memoir for 1:50 000 Geological sheets 256 (North London), 257 (Romford), 270 (South London) and 271 (Dartford) (England and Wales). 2004. Available at: https://webapps.bgs.ac.uk/Memoirs/docs/B06069.html. (accessed on: 10/06/2026).

Bedrock Geology

16.6.1.3 The bedrock geology indicated by published geological mapping (BGS 1:50,000 scale geological maps[45,46,47,48] and GeoIndex Viewer[49,50]) to be present within the Hydrogeology and Hydrology Study Area is presented in **Table 16-7** below and shown on **Figure 16.2 Bedrock Geology.**

Table 16-7: Bedrock Geology, as Recorded by the BGS

Stratum	Description[42]	Present Within Hydrogeology and Hydrology Study Area within…
London Clay Formation	The London Clay Formation is typically a very stiff, thinly laminated, very closely fissured, dark grey and grey-brown CLAY often containing partings of silt and sand, traces of gypsum and pyrite, and irregularly dispersed layers of moderately strong to strong claystone and phosphatic and calcareous nodules. The basal zone of the London Clay Formation is of a similar description but becomes dominated by silt and sand partings and layers, commonly being (or becoming with depth) a clayey, silty SAND. Within the Hydrogeology and Hydrology Study Area the London Clay is anticipated to be up to approximately 55m thick, reducing to the north and west.	LBHi, LBHo, LBE, LBRUT, SpBC, RBWM, SIBC, BC, RBC

[45] BGS. 1:50,000 Scale Geological Map (Solid and Drift Edition) Sheet 255, Beaconsfield. 2005.
[46] BGS. 1:50,000 Scale Geological Map (Bedrock and Superficial Edition) Sheet 256, North London. 2006.
[47] BGS. 1:50,000 Scale Geological Map (Solid and Drift Edition) Sheet 269, Windsor. 1999.
[48] BGS. 1:50,000 Scale Geological Map (Solid and Drift Edition) Sheet 270, South London. 1998.
[49] BGS. GeoIndex Onshore Viewer. Available at: https://mapapps2.bgs.ac.uk/geoindex/home.html. 2026. (accessed on: 10/06/2026).
[50] Including a review of historical exploratory hole records.

Stratum	Description[42]	Present Within Hydrogeology and Hydrology Study Area within…
Harwich Formation	The Harwich Formation is typically a sandy silty CLAY to clayey SILT often containing dispersed shells or shelly layers and can contain calcareous concretions. At the base, the formation may locally contain or comprise fine to medium rounded black flint GRAVEL. The Harwich Formation does not outcrop or subcrop within the Hydrogeology and Hydrology Study Area.	LBHi, LBHo, LBE, LBRUT, SpBC, RBWM, SIBC, BC, RBC
Lambeth Group	The Lambeth Group comprises a variable sequence of the Upper and Lower Mottled Clays and the Upnor Formation. The Upper Mottled Clay is typically a stiff to very stiff, extremely closely fissured, red brown and grey mottled CLAY with occasional patches of sand and weak calcareous nodules, locally containing water-bearing channels/bars of silty fine to medium SAND. The Lower Mottled Clay is typically a very stiff, extremely closely fissured, purple, red, brown and grey mottled CLAY with patches of sand. Calcareous concretions are common, especially at the top of this unit, and form thickly bedded limestone in places. The Upnor Formation is typically a very dense green-grey clayey, very silty tine to medium SAND, with clay laminae and thin beds of flint gravel. The Lambeth Group is anticipated to be typically between 20m and	LBHi, LBHo, LBE, LBRUT, SpBC, RBWM, SIBC, BC, RBC

Stratum	Description[42]	Present Within Hydrogeology and Hydrology Study Area within…
	25m thick within the Hydrogeology and Hydrology Study Area. The Lambeth Group subcrops within parts of the Scoping Boundary within RBWM and BC only. Within all other areas the Lambeth Group is overlain by the London Clay Formation and Harwich Formations.	
White Chalk Subgroup	The White Chalk is typically a white, slightly to moderately weathered CHALK, weak to moderately weak, with nodules and bands of flint with randomly oriented closely to very closely spaced fractures that are open, closed or in-filled with chalk putty. Within the Hydrogeology and Hydrology Study Area the depth to the top of the Chalk is anticipated to be typically between 70m and 90m below ground level and is likely to extend to in excess of 300m below ground level. Present at depth beneath the London Clay Formation, Harwich Formation (where present), Thanet Formation (where present) and Lambeth Group.	LBHi, LBHo, LBE, LBRUT, SpBC, RBWM, SIBC, BC, RBC

Land Instability

Geological Context (Structural)

16.6.1.4 The Site is located within the London Basin, a structurally controlled geological feature bounded by the North and South Downs. The Site is situated on the

northern limb of the syncline[51], within which the various geological strata dip to the south / south-east and the centre of the syncline.

16.6.1.5 The superficial geological strata described in **Table 16-6** are understood to sit within faulted basement blocks, associated with the Variscan Orogeny. The faulted blocks are theorised to be susceptible to reactivation, associated with the Alpine orogeny[52], with faulting and shearing[53] of the bedrock and superficial soils recorded within the London Basin.

16.6.1.6 During and following deposition of the quaternary River Terrace Deposits and Langley Silt that overlay much of the London Basin, a period of significant glacial advance and retreat occurred, with large extents of the London Basin having been exposed to periglacial conditions. Such conditions have further altered the ground and topography across the London Basin. Complex geomorphological structures have been mapped within the basin including drift filled hollows[54], often associated with faulted areas and fluvial systems[55].

16.6.1.7 Due to the scale of the Proposed Development, both laterally and vertically, the ground conditions encountered and potential geological hazards may vary significantly, often further altered by structural and geomorphological processes. These natural ground conditions may have also been further altered through surface workings and anthropogenic activity.

Potential Land Stability Hazards

16.6.1.8 **Table 16-8** below presents a preliminary assessment of the potential land stability hazards present within the Scoping Boundary.

Table 16-8: Assessed Potential for Land Stability Hazards

Stability Hazard	Assessed Hazard Potential
Collapsible Ground	Where Head Deposits, the Langley Silt Member, Alluvium and River Terrace Deposits are present is it considered that there is a Very Low collapsible ground hazard potential because a rapid reduction in volume is not expected to occur when these deposits are loaded and saturated with water. Where landfill materials are present it is considered that there is a High collapsible ground hazard potential because of the likely variability in composition, engineering and degradation which

[51] A geological feature where strata are folded into a 'U' shape.
[52] Morgan et al. Major faulting in London: evidence for inherited basement faults in the London Basin. Quarterly Journal of Engineering Geology and Hydrogeology, Volume 54. 2021.
[53] Chandler et al. Tectonic shear zones in the London Clay Formation. Geotechnique. Volume 48. 1998.
[54] Flynn et al. Buried (drift-filled) hollows in London – a review of their location and key characteristics. Quarterly Journal of Engineering Geology and Hydrogeology. Volume 54. 2020.
[55] Banks etc al. Anomalous buried hollows in London: development of a hazard susceptibility map. Quarterly Journal of Engineering Geology and Hydrogeology. Volume 48. 2015.

Stability Hazard	Assessed Hazard Potential
	results in high potential for rapid volume change when loaded. Where a landfill contains degradable materials, the amount of time that has passed (and therefore the amount of degradation that has occurred) since deposition of the material will impact the collapsibility of the material.
Compressible Ground	Where Head Deposits, the Langley Silt Member and River Terrace Deposits are present the compressible ground hazard potential is considered to be Very Low because significant quantities of very soft compressible materials such as organic clay or peat are not expected to be present. In areas where Alluvium is present, the compressible ground hazard potential is considered to be Moderate due to the potential to contain organic clay and peat. In areas of landfill materials and made ground, the compressible ground hazard potential is considered to be High because of the likely variability in composition, engineering and degradation within these deposits.
Dissolution	It is considered that landfill material / Made Ground, the superficial deposits, and the bedrock deposits of the London Clay Formation, Harwich Formation and Lambeth Group are not susceptible to dissolution stability hazards. Whilst the other stability hazards discussed in this table are predominantly driven by the near-surface deposits, dissolution hazards are often driven by the presence of soluble bedrock at depth. Over geological time, dissolution of a soluble bedrock (e.g., chalk) at depth beneath a site may result in subsidence or collapse at the surface as the near-surface deposits collapse into voids in the bedrock caused by dissolution. The White Chalk Subgroup is located at significant depth beneath the Scoping Boundary, below the London Clay Formation, the Harwich Formation and the Lambeth Group. Whilst the Chalk is soluble, given the significant thickness of very low permeability cover overlying the Chalk, a dissolution hazard potential of Very Low has been assigned.

Stability Hazard	Assessed Hazard Potential
Landslides / Slope Instability	On the basis of the topography within the Scoping Boundary, a landslide / slope instability hazard potential of Very Low has been assigned. The potential for landslide / slope instability hazards increases during deep excavations down into the London Clay Formation where shear zones are present, or where excavations into landfill deposits or Made Ground take place. The assessment of landfill slope stability must be undertaken on a 'case-by-case' basis due to the variability in composition, engineering and degradation within individual landfills. These assessments will be undertaken to support the ES.
Running Sands	Where deposits of Alluvium, Langley Silt Member and Head are present, the running sands hazard potential is considered to be Very Low because these deposits are anticipated to be predominantly silty and clayey, rather than sandy and gravelly. The River Terrace Deposits are anticipated to be predominantly sandy and gravelly. These deposits are also likely to be partly or wholly saturated with groundwater. There is therefore potential for internal erosion associated with groundwater flows into excavations under the water table and therefore where River Terrace Deposits are present, the hazard potential for running sands is considered to be Moderate. The London Clay Formation comprises a silty clay and is classified by the Environment Agency as a non-aquifer. In the absence of a water table and sand deposits, running sands will not occur. Granular dominated, saturated layers within the Lambeth Group are considered susceptible to running sands and are assigned a running sands hazard potential of Low. These may be encountered at depth beneath the Site, where any piled foundations extend through the London Clay Formation into the Lambeth Group.

Stability Hazard	Assessed Hazard Potential
Shrinking and Swelling Clays	The Made Ground, Alluvium, Langley Silt and River Terrace Deposits are assigned a Low hazard potential for shrink-swell behaviour. These classifications are reflective of the potential for these soils to contain highly plastic clay soils, with the potential maximum risk rating limited by the expected variability and potential presence of granular layers / material within these soils. The London Clay Formation is located across the Site and beneath the superficial soils. It is not considered to present a shrink-swell hazard due to being present at depth beneath the overlying River Terrace Deposits. It could however present a heave / stress relief hazard during construction associated with large excavations.

Geodiversity

16.6.1.9 The JNCC have prepared lists of GCR Sites[56]. GCR sites are stated by the JNCC to "*form the basis of statutory geological and geomorphological site conservation in Great Britain*". A review of the lists shows that there are no GCR sites within the Geologically Designated Sites Study Area.

16.6.1.10 A review of SSSI designations within the Geologically Designated Sites Study Area shows that none of the three identified SSSI within this Study Area are designated on geological grounds.

16.6.1.11 The London Geodiversity Partnership's (LGP) London Geodiversity Action Plan 2025-2029[57] states "in London, Sites of Importance for Nature Conservation (SINCs) distinguishes those of London-wide importance from local borough-wide and from local importance. The designation of geological sites in London is a similar approach. RIGS are Regionally Important Geological or Geomorphological Sites at the London region level while LIGS are Locally Important Geological and Geomorphological Sites at the borough level. The site system is managed by local partnerships with the London Geodiversity Partnership having responsibility for the identification, designation and promotion of management of London's RIGS and LIGS".

16.6.1.12 Tables 1 to 3 of the London Geodiversity Action Plan provide the names and reference numbers of the RIGS and LIGS (including Candidate RIGS and LIGS agreed by LGP since 2012). The reference numbers can be cross referenced

[56] JNCC. GCR (Geological Conservation Review) Site lists. 2026. Available at https://jncc.gov.uk/our-work/gcr-sites/. (accessed on: 10/06/2026).
[57] LGP. London Geodiversity Action Plan 2025-2029. 2026. Available at https://londongeopartnership.org.uk/wp/wp-content/uploads/2026/02/LondonGAP-2025-2029-final-draft.pdf. (accessed on 10/06/2026).

against the lists[58] and map[59] of Greater London Authority Geosites presented on LGP's website. The RIGS and LIGS within the Scoping Boundary are presented in the sections below.

16.6.1.13 LGP have also identified a register of "Sites of Geological Interest" (SGI). The status of these designations (i.e., their 'value' relative to a RIGS or LIGS site) is not established within the London Geodiversity Action Plan.

16.6.1.14 A review of the sources described above, alongside information provided by the Surrey Nature Partnership, Berkshire Geoconservation Group and Bucks Geology Group has identified two potentially relevant geodiversity sites within the Geologically Designated Sites Study Area, as described below.

London Borough of Hillingdon

16.6.1.15 There are no recorded RIGS, and one LIGS in the Geologically Designated Sites Study Area within the London Borough of Hillingdon[60].

16.6.1.16 LIGS GLA 62 "*Sipson Lane Complex*" is present within the Scoping Boundary within the London Borough of Hillingdon, immediately south-east of Junction 4 of the M4 motorway at approximate National Grid Reference (NGR) 507720 E, 178320 N. LGP's datasheet for GLA 62[61] states that this feature "*comprises what were until recently two working sand and gravel quarries …By 2020, the southern quarry had ceased operations and was being prepared for restoration to 'agricultural land by backfilling with inert waste by the owner. The northern quarry (Wall Garden Farm) appears also to have ceased extracting sand and gravel and in 2021… The Sipson Lane quarries have provided key sections within the Greater London Authority (GLA) of the Taplow Gravel Member… and the overlying Langley Silt Member*". The majority of the land within the boundary of GLA 62 appears to have either been worked for minerals and is now backfilled and restored to agricultural land or has not been worked.

16.6.1.17 One SGI (SGI 41 "*Harmondsworth Great Barn*") is present within the Scoping Boundary within the London Borough of Hillingdon at approximate NGR 505755 E, 177785 N. SGI 41 "*is of geological interest because of the large blocks of ferricrete used in the construction of its foundations*"[62]*.* As the geological interest is not "in-situ" this site will not be considered further within this Chapter. It is noted that the barn is a Grade 1 listed building and will therefore be assessed within Chapter 13,

[58] LGP. List of Greater London Authority Geosites. 2026. Available at https://londongeopartnership.org.uk/londonsgeositeslist/. (accessed on 10/06/2026).
[59] LGP. Guide to Important Geological Sites in London. 2026. Available at https://londongeopartnership.org.uk/guide-to-londons-sites/. (accessed on: 10/06/2026).
[60] It is noted that the map incorrectly shows site GLA 63 "Barn Hill" in the location of GLA 62.
[61] LGP. GLA 62 Sipson Lane Quarry Complex. Undated. Available at https://londongeopartnership.org.uk/wp/wp-content/uploads/2022/04/GLA-62-Sipson-Lane-web.pdf. (accessed on: 10/06/2026).
[62] LGP. SGI 41 Harmondsworth Great Barn, Harmondsworth UB7 0AQ. 2025. Available at https://londongeopartnership.org.uk/wp/wp-content/uploads/2025/02/SGI-41-Harmondsworth-Great-Barn_v2.pdf. (accessed on: 10/06/2026).

Historic Environment. No further SGI are identified within the Geologically Designated Sites Study Area in the London Borough of Hillingdon.

London Borough of Hounslow

16.6.1.18 There are no recorded RIGS, or SGI, and one LIGS in the Geologically Designated Sites Study Area within the London Borough of Hounslow.

16.6.1.19 LIGS GLA 68 "*Bedfont Lakes"* is present within the Study Area within the London Borough of Hillingdon, immediately south-east of Clockhouse Lane within the Bedfont Lakes Country Park, at approximate National Grid Reference (NGR) 507950 E, 172620 N. LGP's datasheet for GLA 68[63] states that this LIGS comprises former quarries in the Kempton Park Gravel and that "*In the 20 years since the park opened the vegetation has flourished and exposures are sparse*".

London Borough of Ealing

16.6.1.20 There are no recorded RIGS, LIGS or SGI in the Geologically Designated Sites Study Area within the London Borough of Ealing.

London Borough of Richmond upon Thames

16.6.1.21 There are no recorded RIGS, LIGS or SGI in the Geologically Designated Sites Study Area within the London Borough of Richmond upon Thames.

Spelthorne Borough Council

16.6.1.22 The Surrey Nature Partnership (SNP) maintains a register[64] of the Sites of Nature Conservation Importance (SNCI) and RIGS within Surrey. The register provides a breakdown of the SNCI and RIGS by LPA area. A review of the register shows that there are no designated RIGS in the Geologically Designated Sites Study Area within the administrative area of Spelthorne Borough Council.

Royal Borough of Windsor and Maidenhead

16.6.1.23 The Berkshire Geoconservation Group provides information about designated geological sites within Berkshire. The information presented on the website[65] indicates that there are no designated local geological sites within the Geologically Designated Sites Study Area in the administrative area of the Royal Borough of Windsor and Maidenhead.

[63] LGP. GLA 68 Bedfont Lakes. Undated. Available at https://londongeopartnership.org.uk/wp/wp-content/uploads/2018/08/GLA68.pdf. (accessed on: 17/09/2026).
[64] Surrey Nature Partnership. Local Sites in Surrey (SNCIs & RIGS) Register. 2026. Available at https://surreynaturepartnership.org/sites-of-nature-conservation-importance-snci/#local-sites-in-surrey-sncis-rigs-register. (accessed on: 10/06/2026).
[65] Berkshire Geoconservation Group. Geological Sites. 2026. Available at: https://berksgeoconservation.org.uk/lgs.php. (accessed on 17/09/2026).

Slough Borough Council

16.6.1.24 Information provided on the Berkshire Geoconservation Group website indicates that there are no designated local geological sites within the Geologically Designated Sites Study Area in the administrative area of the Slough Borough Council.

Buckinghamshire Council

16.6.1.25 The Bucks Geology Group provide information about designated geological sites within Buckinghamshire. A review of the list of designated local geological sites[66] shows that none are located within the Geologically Designated Sites Study Area in the administrative area of Buckinghamshire Council.

Runnymede Borough Council

16.6.1.26 A review of the SNP's register[64] of the SNCI and RIGS within Surrey shows that there are no designated RIGS in the Geologically Designated Sites Study Area within the administrative area of Runnymede Borough Council.

16.6.2 Hydrogeology Baseline

Aquifer Designation

16.6.2.1 The aquifer designations of the superficial deposits in the Hydrogeology and Hydrology Study Area, as classified by the Environment Agency and as presented on DEFRA's MAGIC viewer[67] are presented in **Table 16-9** below.

Table 16-9: Superficial Deposits, Aquifer Designation

Stratum	Aquifer Classification	Present Within Hydrogeology and Hydrology Study Area within…
Head Deposits	Unproductive Stratum (non-aquifer)	LBHo, BC
Alluvium	Secondary A Aquifer	LBHo, SpBC, RBWM, SlBC, BC, LBHi, RBC
Langley Silt Member	Unproductive Stratum (non-aquifer)	LBHo, SpBC, RBWM, SlBC, BC, LBHi, LBE, RBC

[66] Bucks Geology Group. Local Geological Sites. 2026. Available at: https://bucksgeology.org.uk/rigs.html. (accessed on 10/06/2026).
[67] DEFRA. Multi Agency Geographic Information for the Countryside (MAGIC) interactive map. 2026. Available at https://magic.defra.gov.uk/MagicMap.html. (accessed on: 10/06/2026).

Stratum	Aquifer Classification	Present Within Hydrogeology and Hydrology Study Area within…
Shepperton Gravel Member	Principal Aquifer	RBWM, SpBC, SIBC, BC, LBHi, RBC
Kempton Park Gravel Member	Principal Aquifer	LBHo, SpBC, RBC
Taplow Gravel Member	Principal Aquifer	LBHo, SpBC, RBWM, SIBC, BC, LBHi, LBE, LBRUT
Lynch Hill Gravel Member	Principal Aquifer	LBHo, BC, LBHi, LBE
Boyn Hill Gravel Member	Secondary A Aquifer	LBHi, BC

Table 16-10: Bedrock Geology, Aquifer Designation

Stratum	Aquifer Classification	Present Within Hydrogeology and Hydrology Study Area within…
London Clay Formation	Unproductive Stratum (non-aquifer)	LBHi, LBHo, LBE, LBRUT, SpBC, RBWM, SIBC, BC, RBC
Harwich Formation	Secondary A Aquifer	LBHi, LBHo, LBE, LBRUT, SpBC, RBWM, SIBC, BC, RBC
Lambeth Group	Secondary A Aquifer	LBHi, LBHo, LBE, LBRUT, SpBC, RBWM, SIBC, BC, RBC
White Chalk Subgroup	Principal Aquifer	LBHi, LBHo, LBE, LBRUT, SpBC, RBWM, SIBC, BC, RBC

16.6.2.2 Principal Aquifers are defined[68] by the Environment Agency as rock layers that "provide significant quantities of drinking water, and water for business needs. They may also support rivers, lakes and wetlands".

16.6.2.3 Secondary A Aquifers are defined[68] by the Environment Agency as "*permeable layers that can support local water supplies, and may form an important source of base flow to rivers*".

16.6.2.4 Unproductive Strata are defined[68] by the Environment Agency as strata that are "*largely unable to provide usable water supplies and are unlikely to have surface water and wetland ecosystems dependent on them*".

Groundwater Vulnerability

16.6.2.5 Information relating to groundwater vulnerability is presented on DEFRA's MAGIC viewer[69] and is summarised in **Table 16-11** below.

Table 16-11: Groundwater Vulnerability

Stratum	Groundwater Vulnerability	Present Within Hydrogeology and Hydrology Study Area within…
Head Deposits	Medium - Low	LBHo, BC
Alluvium	Low	LBHo, SpBC, RBWM, SIBC, BC, LBHi, RBC
Langley Silt Member	Unproductive	LBHo, SpBC, RBWM, SIBC, BC, LBHi, LBE, RBC
Shepperton Gravel Member	Medium – High	RBWM, SpBC, SIBC, BC, LBHi, RBC
Kempton Park Gravel Member	Medium - Low to Medium - High	LBHo, SpBC, RBC
Taplow Gravel Member	Medium Low to Medium - High	LBHo, SpBC, RBWM, SIBC, BC, LBHi, LBE, LBRUT

[68] Environment Agency. Protect groundwater and prevent groundwater pollution. 2017. Available at https://www.gov.uk/government/publications/protect-groundwater-and-prevent-groundwater-pollution/protect-groundwater-and-prevent-groundwater-pollution. (accessed on: 10/06/2026).
[69] DEFRA. Multi Agency Geographic Information for the Countryside (MAGIC) interactive map. 2026. Available at https://magic.defra.gov.uk/MagicMap.html. (accessed on: 10/06/2026).

Stratum	Groundwater Vulnerability	Present Within Hydrogeology and Hydrology Study Area within…
Lynch Hill Gravel Member	Medium – High	LBHo, BC, LBHi, LBE
Boyn Hill Gravel Member	Low	LBHi, BC

16.6.2.6 The Environment Agency define[70] Low, Medium and High vulnerability as follows:

- High - "Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits";
- Low - "Areas that provide the greatest protection to groundwater from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability"; and
- Medium vulnerability is described as intermediate between Low and High vulnerability.

Groundwater Abstractions and Source Protection Zones

Groundwater Abstractions

16.6.2.7 Information relating to licenced groundwater abstractions will be provided within a Groundsure Report that will inform the assessments that will support the ES, alongside information relating to Private Water Supplies (PWS) that will be provided by the Local Planning Authorities. Groundwater Source Protection Zones and Drinking Water Safeguard Zones

16.6.2.8 A groundwater SPZ is a zone defined around a groundwater source such as a well, borehole or spring, by the Environment Agency, to protect a drinking water supply from pollution. Groundwater SPZs are generally split into three zones showing the level of risk to a groundwater source from contamination.

16.6.2.9 Information relating to groundwater SPZs as shown on DEFRA's MAGIC viewer[69] is provided below. It is noted that no part of the Scoping Boundary or the Hydrogeology and Hydrology Study Area are located within a groundwater drinking water safeguard zone.

[70] Environment Agency. New groundwater vulnerability mapping methodology in England and Wales – Report SC040016/R. 2017. Available at https://assets.publishing.service.gov.uk/media/5a81dd24ed915d74e6234867/Groundwater_vulnerability_report_2017.pdf . (accessed on 10/06/2026).

16.6.2.10 A SPZ1 is defined[71] as the inner zone which is a 50-day travel time of a pollutant to the abstraction point. A SPZ2 Outer Zone is defined as a 400-day travel time of a pollutant to an abstraction point. A SPZ3 is defined as the total catchment, which is the area around an abstraction within which all the groundwater ends at the abstraction point.

16.6.2.11 The SPZs that have been identified within the Hydrogeology and Hydrology Study Area are presented on **Figure 16.4 Groundwater Source Protection Zones**.

London Borough of Hillingdon

16.6.2.12 Groundwater SPZs are not identified within the majority of the Hydrogeology and Hydrology Study Area within the London Borough of Hillingdon. A limited area in the north of the Hydrogeology and Hydrology Study Area is located within a SPZ2 associated with groundwater abstraction/s at Hillingdon Hospital to the east of this Study Area. The SPZ1 associated with the abstraction/s is outside of this Study Area.

London Borough of Hounslow

16.6.2.13 Groundwater SPZs are not identified within the Hydrogeology and Hydrology Study Area within the London Borough of Hounslow.

London Borough of Ealing

16.6.2.14 Groundwater SPZs are not identified within the Hydrogeology and Hydrology Study Area within the London Borough of Ealing.

London Borough of Richmond upon Thames

16.6.2.15 Groundwater SPZs are not identified within the Study Area within the London Borough of Richmond upon Thames.

Spelthorne Borough Council

16.6.2.16 Parts of the Hydrogeology and Hydrology Study Area within the administrative area of Spelthorne Borough Council are within an SPZ3 associated with a groundwater abstraction or abstractions at Chertsey Water Treatment Works (WTW). The SPZ1 and SPZ2 associated with the abstraction are outside of this Study Area.

Royal Borough of Windsor and Maidenhead

16.6.2.17 Limited parts in the north-west of the Hydrogeology and Hydrology Study Area within the administrative area of the Royal Borough of Windsor and Maidenhead are within an SPZ3 associated with a groundwater abstraction or abstractions to the north-west of Eton. A very limited area in the west of this Study Area extends

[71] Environment Agency. Groundwater source protection zones (SPZs). 2019. Available at https://www.gov.uk/guidance/groundwater-source-protection-zones-spzs. (accessed on 10/06/2026).

into the SPZ2 associated with the abstraction/s. The SPZ1 associated with the abstraction/s is outside of this Study Area.

16.6.2.18 An area in the south of the Hydrogeology and Hydrology Study Area within the administrative area of the Royal Borough of Windsor and Maidenhead is within an SPZ3 associated with a groundwater abstraction or abstractions at Chertsey WTW. The SPZ1 and SPZ2 associated with the abstraction/s are outside of this Study Area.

Slough Borough Council

16.6.2.19 Limited parts in the west of the Hydrogeology and Hydrology Study Area within the administrative area of Slough Borough Council are within an SPZ3 associated with a groundwater abstraction or abstractions to the north-west of Eton. This SPZ3 is the same as described within the Royal Borough of Windsor and Maidenhead section. The SPZ1 and SPZ2 associated with the abstraction/s are outside of this Study Area.

Buckinghamshire Council

16.6.2.20 The majority of the Hydrogeology and Hydrology Study Area within the administrative area of Buckinghamshire Council is not located within a groundwater SPZ, with the exception of a limited area in the west of this Study Area, which extends into the SPZ3 associated with a groundwater abstraction or abstractions to the north-west of Eton (as described within the Royal Borough of Windsor and Maidenhead section). The SPZ1 and SPZ2 associated with the abstraction/s are outside of this Study Area.

Runnymede Borough Council

16.6.2.21 The majority of the Hydrogeology and Hydrology Study Area within the administrative area of Runnymede Borough Council is within a SPZ3 associated with a groundwater abstraction or abstractions at Chertsey WTW. This SPZ3 is the same as described within the Royal Borough of Windsor and Maidenhead section. The SPZ1 and SPZ2 associated with abstractions at the WTW are outside of this Study Area.

16.6.3 Hydrology Baseline

Surface Water Features

16.6.3.1 Information relating to rivers, reservoirs and surface watercourses is summarised in **Table 16-12** below. Further information relating to surface water baseline and surface water receptors is provided in Chapter 22, Water Environment and on **Figure 22.3**.

Table 16-12: Surface Water Features within the Hydrogeology and Hydrology Study Area

ID	Name	Located within…	Description
HB	Horton Brook	BC, SIBC, RBWM,	Horton Brook is a tributary of Colne Brook. It flows north to south and runs approximately parallel to the Colne Brook, with its confluence with Colne Brook located approximately 400m upstream of the confluence of the Colne Brook and the River Thames.
CB	Colne Brook	BC, SIBC, RBWM,	Colne Brook originates from the bifurcation of the River Colne, west of Uxbridge. It crosses underneath the M25 to the north of the M4/M25 interchange and immediately to the west of this interchange it crosses underneath the M4. It flows through the western side of Poyle, and to the west of the Wraysbury Reservoir before its confluence with the River Thames to the south of Junction 13 of the M25.
CD	County Ditch	SIBC	The County Ditch is a small section of Main River that flows from east to west and discharges into the Colne Brook.
PC	Poyle Channel	SIBC	The Poyle Channel originates from the bifurcation of the Wraysbury River, carrying a portion of the flow east to west from its origin on the west side of the M25 and to the south of Bath Road. It flows through Poyle and into Colne Brook in the Arthur Jacob Nature Reserve upstream of the confluence of the Colne Brook and the River Thames, which is located south of Junction 13 of the M25.
BD	Bigley Ditch	BC, LBHi	Bigley Ditch flows from the River Colne from the north-east of the M4/M25 interchange, crossing beneath this junction and flowing south predominantly parallel to the M25 until its confluence with Wraysbury River in the south of Harmondsworth Moor.

ID	Name	Located within…	Description
WR	Wraysbury River	LBHi, SIBC, SpBC	The Wraysbury River originates from the bifurcation of the River Colne north of the M4, where it then flows south through Harmondsworth Moor, and then parallel to the east side of the M25. It crosses beneath the M25 near Poyle, where it bifurcates, with the majority of flow diverted westwards into the Poyle Channel and the remainder continuing southwards in the Wraysbury River. Approximately 850m along the east of the Wraysbury Reservoir, Wraysbury River flows back underneath the M25 and continues south until it converges with the River Colne just north of the confluence with the Thames.
HS	Hithermoor Stream	SpBC	The Hithermoor Stream is a bifurcation of the River Colne that flows in a southerly direction and is situated east of Wraysbury Reservoir. The stream flows via Hithermoor Lake prior to reconnecting with the River Colne.
HLD	Holme Lodge Ditch	LBHi, SpBC	Holme Lodge Ditch diverges from the Longford River before flowing in a southernly direction and joining the Stanwell Moor Ditch.
RC	River Colne	LBHi, BC, SpBC	The River Colne comprises a network of channels that flow south through the Colne Valley Regional Park, west of Uxbridge and West Drayton. It continues south through Harmondsworth Moor and passes to the west of Heathrow Airport and the King George VI Reservoir before joining the River Thames at Staines-upon-Thames. The river has a number of bifurcations relevant to the Proposed Development, including Wraysbury River, Longford River and the Duke of Northumberland's River.

ID	Name	Located within…	Description
RA	River Ash	SpBC	The River Ash is a bifurcation of the River Colne, south of the King George VI Reservoir. From there it flows broadly south-east, converging with Stanwell Brook in Ashford before continuing in a south-easterly direction to its confluence with the Thames west of Sunbury.
LoR/DoN	Twin Rivers (Duke of Northumberland's River / Longford River)	LBHi, LBHo, SpBC	The Duke of Northumberland's River originates from a bifurcation of the River Colne within Harmondsworth Moor, south of the M4, and flows south towards the northwestern boundary of Heathrow Airport. The Longford River is another bifurcation of the Colne, originating at Longford to the north-west of the airport. Both watercourses are artificial channels that flow south between Stanwell Moor Road and the Western Perimeter Road. The Duke of Northumberland's River conveys flows eastwards to the River Crane and subsequently to the River Thames as Isleworth. The Longford River follows the southern boundary of the airport before flowing south-east through Bushy Park and Hampton Court, eventually joining the River Thames.
RC	River Crane	LBHi, LBHo	The River Crane is located to the east of Heathrow Airport and flows generally north to south past Heathrow before turning east through Twickenham and then north through Isleworth to its confluence with the River Thames. The upper reaches of the River Crane are formed by the Yeading Brook.
SM	Stanwell Moor Ditch	LBHi, SpBC	Stanwell Moor Ditch originates near Stanwell Moor Road to the south-west of Heathrow Airport, and flows south–west, approximately parallel with Hithermoor Road. It flows through Ricketts Park before joining the River Colne to the west of the King George VI Reservoir.

ID	Name	Located within…	Description
BoD	Bonehead Ditch	SpBC	Formed by a bifurcation of the River Colne within Staines Moor, this channel initially flows south-east before turning south along the western edge of the King George VI Reservoir. It then rejoins the main channel of the River Colne immediately north of Staines Bypass.
FD	Frogs Ditch	LBHi	A tributary of the River Crane that flows from north-west to south-east, crossing beneath the M4 and through Cranford Park.
FR	Fray's River	LBHi	A tributary of the River Colne that branches off at Denham Weir and flows south through Uxbridge, Cowley, Yiewsley and West Drayton. It rejoins the River Colne in western West Drayton, adjacent to Wren Drive.
RP	River Pinn	LBHi	The River Pinn flows south through Pinner, Eastcote, Ruislip, Ickenham and Uxbridge before crossing beneath the Grand Union Canal and joining Fray's River at Yiewsley. It forms part of a parallel drainage network between the River Colne and River Crane.
GUC	The Grand Union Canal	BC, LBHi, LBE	The Grand Union Canal (Uxbridge to Hanwell Locks, Slough Arm, Paddington Arm) flows from west to east, crossing numerous watercourses along its route including the River Pinn, Fray's River, River Colne and Colne Brook.
KG	King George VI Reservoir water transfer	SpBC	The King George VI reservoir water transfer flows broadly east from south of Shortwood Pond, and then parallel to Staines Road West, before turning north east at Sunbury-on-Thames. It then crosses Felthamhill Brook and converges with Portlane Brook.

ID	Name	Located within…	Description
AB	Alder Bourne	BC	The Alder Bourne rises near Fulmer in Buckinghamshire and flows southeast through the rural Alder Bourne valley. It then reaches Uxbridge Moor, where it joins the Colne Brook near the M25, becoming part of the wider River Colne catchment.
SB	Stanwell Brook	SpBC	A main river and tributary of the River Ash, originating as two branches (west and east) to the west of Staines Reservoirs. The west branch flows south from the Southern Perimeter Road through Stanwell, approximately parallel to Town Lane. The east branch originates near Long Lane Recreation Ground, flowing approximately parallel to Long Lane. The two branches converge immediately south of London Road, after which Stanwell Brook flows south–west before joining the River Ash to the north of Staines Bypass.
CDS	County Ditch Staines	SIBC, SpBC, RBWM	An unnamed main river, likely to be a reach of County Ditch or County Ditch Staines, a designated main river, originates to the south west of Poyle. It is anticipated that the watercourse was altered during the construction of Wraysbury Reservoir. The watercourse flows largely south, parallel to the western edge of Wraysbury Reservoir and Coppermill Road. Before joining County Ditch, where it flows broadly south east, through the area that contains Lakes_4 and Heron Lake before joining the River Thames south of Lammas Recreation Ground.
DCB	Datchet Common Brook	RBWM	Datchet Common Brook begins to the south of Upham Lake, flowing south through Wexham Court and Upton Lea, before turning south-east towards The Queen Mother Reservoir. It follows the south-

ID	Name	Located within…	Description
			western edge of the reservoir before joining the River Thames at Sunnymeads.
HD	Hurst Ditch	RBC	Hurst Ditch is a Main River, located south of Egham, that flows in a southerly direction before discharging into The Moat.
MD	Meadlake Ditch	RBC	The Meadlake Ditch is a Main River that flows south from Egham, passing Thorpe Hay Meadow towards Norlands Lane before discharging into Fleet Lake.
SwD	Sweeps Ditch	SpBC	Sweeps Ditch flows South of Staines upon Thames. It is located in the south of the FRSA, flowing in a southerly direction before discharging into the River Thames.
SaL	Saxon Lake	LBHi	A former gravel pit located in the northeast of Harmondsworth Moor. Immediately to its west lies the River Colne and the point at which it bifurcates to form the Duke of Northumberland's River.
SwL	Swan Lake	LBHi	A former gravel pit located within Harmondsworth Moor. The River Colne flows south along its western edge, while the Duke of Northumberland's River flows south along its eastern edge.
Lakes_1	Lakes to north-east of M4 Junction 4B	BC, LBHi	A number of lakes within Thorney Country Park, including Mayfields Lake and Thorney Pool. Colne Brook flows along the north-western side of these lakes, while the River Colne flows along the eastern side.

ID	Name	Located within…	Description
Lakes_2	Lakes to east of Iver North Water Treatment Works	BC, LBHi	A number of lakes north of the Proposed Development and intersected by the Grand Union Canal (Slough Arm), to the east of Iver North Water Treatment Works.
Lakes_3	Lakes at Bedfont Lakes Country Park	SpBC, LBHo	A number of lakes within Bedfont Lakes Country Park, to the south of the existing Heathrow Airport site.
Lakes_4	Lakes adjacent to M25 Junction 13	RBWM, SpBC	A number of lakes around Junction 13. The area here is intersected by the Colne Brook in the west, Wraysbury River to the east and Unnamed_1 flowing between them.
Lakes_5	Lakes east and north-east of Wraysbury/south of Horton	RBWM	A number of lakes to the west of Wraysbury Reservoir and Colne Brook, and north-east of Wraysbury. The River Thames border them on the western side of this area.
Lakes_6	Lakes north of Horton/west of Poyle	RBWM, SIBC	A number of lakes within the Arthur Jacob Nature Reserve, intersected by Poyle Channel and Colne Brook.
HL	Heron Lake	RBWM	A lake situated to the south of those within the group of lakes at Lakes_4. It is located within the area bounded by Heron Lake Road, Wraysbury Road and the A30.
SRes	Staines Reservoir (north and south)	SpBC	Staines Reservoirs are split into two water bodies, north and south. They are located to the immediate east of the King George VI Reservoir and southwest of Stanwell. The reservoirs are artificial,

ID	Name	Located within…	Description
			embanked water bodies supplied by water abstracted from the River Thames and operated by Thames Water for public water supply.
QMRes	Queen Mother Reservoir	RBWM	The Queen Mother Reservoir is located to the northwest of Horton. It is an artificial embanked water body supplied by water abstracted from the River Thames and operated by Thames Water for public water supply.
WRes	Wraysbury Reservoir	SpBC	A reservoir located south of Poyle, to the west of the M25. It is an artificial embanked water body supplied by water abstracted from the River Thames and operated by Thames Water for public water supply.
KGRes	King George VI Reservoir	SpBC	A reservoir located south of Stanwell Moor and to the immediate west of the Staines Reservoirs. It is an artificial embanked water body supplied by water abstracted from the River Thames and operated by Thames Water for public water supply.
EBRes	Eastern Balancing Reservoir	LBHo	The Eastern Balancing Reservoirs (EBRes) provide attenuation of flows from Heathrow Airport prior to controlled discharge to the River Crane. Water within the reservoirs is treated through oil separation, settlement and aeration processes. The EBRes also acts as the primary water storage facility for firefighting at Heathrow Airport.

16.6.4 Potentially Contaminative Land Uses

Historical and Permitted Landfill Sites

16.6.4.1 A review of current and historical land uses within the Land Contamination Study Area has identified 152 No. historical and 29 No. permitted landfills within this Study Area. Of these, 105 No. historical and 27 No. permitted landfills are also wholly or partially within the Scoping Boundary, as described in **Tables 16-13** and **16-14** below[72].

16.6.4.2 The historical landfill information has been obtained from the Environment Agency's "*Historic Landfill Sites*" dataset. The Environment Agency describe[73] a 'historical landfill' in the dataset as "*a site where there is no environmental permit in force... The dataset includes sites that existed before landfills were regulated... It also includes sites that were licensed (permitted) where that licence is no longer in force, in accordance with the legislation at the time*".

16.6.4.3 The permitted landfill information has been obtained from the Environment Agency's "*Permitted Waste Sites - Authorised Landfill Site Boundaries*" dataset. The Environment Agency describe[74] a 'permitted landfill' as "*landfill sites that are currently authorised by the Environment Agency under Environmental Permitting Regulations"*.

16.6.4.4 Following a meeting with the Environment Agency on 9th September 2026, it is recognised that the information in the historical and permitted landfill datasets is incomplete. Further information will be sought from the Environment Agency to provide a complete dataset of historical and permitted landfill facilities, including areas of land that have been backfilled/restored under a deposit for recovery permit.

[72] Within this table, where a landfill spans the boundary of multiple Local Planning Authorities it has been included in the totals for each authority it is partially located in. For this reason, the total number of historical and permitted landfills in the table above is greater than the number of individual historical and permitted landfill sites within the Scoping Boundary and the Land Contamination Study Area.
[73] Environment Agency. Historic Landfill Sites. 2026. Available at: https://www.data.gov.uk/dataset/17edf94f-6de3-4034-b66b-004ebd0dd010/historic-landfill-sites1. (accessed on: 10/06/2026).
[74] Environment Agency. Permitted Waste Sites – Authorised Landfill Site Boundaries. 2026. Available at: https://www.data.gov.uk/dataset/ad695596-d71d-4cbb-8e32-99108371c0ee/permitted-waste-sites-authorised-landfill-site-boundaries1. (accessed on: 10/06/2026).

Table 16-13: Historical Landfill Information

Local Planning Authority	Within or intersects the Scoping Boundary		Within the Land Contamination Study Area only (does not intersect the Scoping Boundary)	
	Reference Number	Name	Reference Number	Name
London Borough of Hillingdon	EAHLD10135	Colnbrook By Pass No.3	EAHLD11088	Hatton Cross
	EAHLD10140	Colnbrook By Pass No.2	EAHLD11169	Perry Oaks Sewage Works
	EAHLD10144	Colnbrook By Pass No.1	EAHLD11173	South of Thorney Mill Road
	EAHLD10172	Horton Road	EAHLD11176	Cowley Lane
	EAHLD11071	Straddling the Causeway	EAHLD11177	The Lizzards
	EAHLD11078	Green Lane	EAHLD11188	East of Old Mill Lane
	EAHLD11124	Bulls Bridge Area	EAHLD11192	Frogsditch Farm
	EAHLD11163	Frogsditch Farm	EAHLD11283	Thorney Mill Site
	EAHLD11164	Stockley Road East	EAHLD11326	South of Packet Boat Lane
	EAHLD11165	Wise Lane Farm	EAHLD11327	British Waterways Site
	EAHLD11166	Willow Piggeries	EAHLD11334	Stockley Park East
	EAHLD11180	Minet Site D		
	EAHLD11167	Accomodation Lane East No.3		
	EAHLD11168	South of Old Bath Road 2		

Local Planning Authority	Within or intersects the Scoping Boundary		Within the Land Contamination Study Area only (does not intersect the Scoping Boundary)	
	Reference Number	Name	Reference Number	Name
	EAHLD11170	Northern Perimeter Road		
	EAHLD11172	Holloway Lane Quarry		
	EAHLD11179	South of Moor Lane		
	EAHLD11181	Heathrow Runway		
	EAHLD11187	Land Rear of Airport Bowl		
	EAHLD11193	Trout Lane		
	EAHLD11279	Accomodation Lane East No.2		
	EAHLD11280	South of Old Bath Road No.1		
	EAHLD11281	Holloway Lane North		
	EAHLD11309	Crane Meadow		
	EAHLD11315	Accomodation Lane East No.1		
	EAHLD11316	Accomodation Lane West		
	EAHLD11320	Holiday Inn Golf Club		
	EAHLD11321	West of Stockley Road		

Local Planning Authority	Within or intersects the Scoping Boundary		Within the Land Contamination Study Area only (does not intersect the Scoping Boundary)	
	Reference Number	Name	Reference Number	Name
	EAHLD11322	South of Cranford Lane		
	EAHLD11324	North of Laurel Lane		
	EAHLD11328	Saint Peters Way		
	EAHLD11329	Stockley Park West		
	EAHLD11333	Stockley Trident		
	EAHLD11337	Home Farm		
	EAHLD11347	British Airways Catering		
	EAHLD11348	Horton Road		
	EAHLD11349	Stanwell Moor Road West		
	EAHLD11351	East of Cranford Lane		
	EAHLD11613	Mentone Farm		
	EAHLD11752	Stanwell No.2		
	EAHLD12515	Woodlands Park		
	EAHLD12534	Larbourne Farm		
	EAHLD12611	Bagley Ditch		
	EAHLD13178	Imperial College		
	EAHLD32328	Cape Products		

Local Planning Authority	Within or intersects the Scoping Boundary		Within the Land Contamination Study Area only (does not intersect the Scoping Boundary)	
	Reference Number	Name	Reference Number	Name
	EAHLD32334	William Boyer and Sons Limited		
	EAHLD32391	Spout Lane Tip		
	EAHLD34080	Spout Arch		
	EAHLD34557	Land at Yeading		
	EAHLD36169	South Of Sipson Lane I I		
London Borough of Hounslow	EAHLD11026	West of Clockhouse Lane	EAHLD11030	Bedfont Urban Farm
	EAHLD11063	Redwood Estate	EAHLD11069	Bath Road Sports Ground
	EAHLD11065	Bulls Bridge	EAHLD11072	Hounslow Heath Golf Course
	EAHLD11066	Convent Way	EAHLD11074	Hounslow Heath Golf Course
	EAHLD11070	Midsummer Avenue	EAHLD11081	Marlborough Road - Wigley Road
	EAHLD11071	Straddling the Causeway	EAHLD11082	Bedfont Close
	EAHLD11073	Hounslow Heath Golf Course	EAHLD11084	Bedfont Lane - Sandy Lane
	EAHLD11075	Saint Albans Farm West	EAHLD11086	Feltham Arena
	EAHLD11076	Saint Albans Farm East	EAHLD11098	Bedfont Lakes South

Local Planning Authority	Within or intersects the Scoping Boundary		Within the Land Contamination Study Area only (does not intersect the Scoping Boundary)	
	Reference Number	Name	Reference Number	Name
	EAHLD11077	Hounslow Heath Golf Course	EAHLD11103	Heathrow Oil Terminal
	EAHLD11078	Green Lane	EAHLD11217	Bedfont Lakes North East
	EAHLD11079	Cranebank-Hazelmere	EAHLD11200	Grovestyle Way - Monarchs Close
	EAHLD11080	Beavers Farm Estate	EAHLD11221	Hounslow Heath
	EAHLD11083	Stanwell Road	EAHLD11222	Hounslow Heath
	EAHLD11085	Blenheim Park	EAHLD11376	Lower Park Farm
	EAHLD11087	British Maritime Technology	EAHLD34088	Land Between Monster Avenue and Frampton Road
	EAHLD11089	Hatton Farm I		
	EAHLD11090	Hatton Farm II		
	EAHLD11091	North Feltham Trading Estate		
	EAHLD11092	Hampton Road West		
	EAHLD11218	Bedfont Lakes North West		
	EAHLD11229	Bedfont Pit		
	EAHLD11377	Land at Mentone Farm		

Local Planning Authority	Within or intersects the Scoping Boundary		Within the Land Contamination Study Area only (does not intersect the Scoping Boundary)	
	Reference Number	Name	Reference Number	Name
	EAHLD11613 EAHLD35598	Mentone Farm Airlinks, Hounslow		
London Borough of Ealing	EAHLD11066 EAHLD11360 EAHLD34557	Convent Way Southall Gas Works Land at Yeading	EAHLD11358 EAHLD11359	Dairy Meadow Waterside Road
London Borough of Richmond upon Thames	n/a	n/a	n/a	n/a
Spelthorne Borough Council	EAHLD11026 EAHLD11349 EAHLD11377 EAHLD11616 EAHLD11609 EAHLD11610 EAHLD11613 EAHLD11752 EAHLD11814	West of Clockhouse Lane Stanwell Moor Road West Land at Mentone Farm Leacroft Hithermoor Farm Horton Road Mentone Farm Stanwell No.2 Hithermoor Farm Area C	EAHLD11098 EAHLD11103 EAHLD11611 EAHLD11615 EAHLD11864 EAHLD32403	Bedfont Lakes South Heathrow Oil Terminal Clockhouse Lane Lakeside Church Lammas Landfill St. Davids (Welsh Girls) School Tip

Local Planning Authority	Within or intersects the Scoping Boundary		Within the Land Contamination Study Area only (does not intersect the Scoping Boundary)	
	Reference Number	Name	Reference Number	Name
	EAHLD32391	Spout Lane Tip		
Royal Borough of Windsor and Maidenhead	EAHLD10176	Poyle Manor South	EAHLD10206	Kingsmead Quarry
	EAHLD10183	Horton Lagoons Landfill	EAHLD10240	Wraysbury Road
	EAHLD10192	Welley Road	EAHLD11864	Church Lammas Landfill
	EAHLD13156	Kingsmead Quarry	EAHLD12615	Hythe End Road (1)
	EAHLD32336	Eton Rural District Council	EAHLD12617	Feathers Lane
Slough Borough Council	EAHLD10110	Hollow Hill Lane	EAHLD10137	Caravan Park
	EAHLD10135	Colnbrook By Pass No.3	EAHLD11608	Aarque Systems
	EAHLD10139	Sutton Lane No.3	EAHLD32335	Procea Products
	EAHLD10140	Colnbrook By Pass No.2		
	EAHLD10141	Tanhouse Farm No.1		
	EAHLD10142	Orlitts Lake		
	EAHLD10144	Colnbrook By Pass No.1		
	EAHLD10146	Sutton Lane No.2		
	EAHLD10148	Tanhouse Farm No.2		

Local Planning Authority	Within or intersects the Scoping Boundary		Within the Land Contamination Study Area only (does not intersect the Scoping Boundary)	
	Reference Number	Name	Reference Number	Name
	EAHLD10162	Poyle Manor North		
	EAHLD10172	Horton Road		
	EAHLD10176	Poyle Manor South		
	EAHLD11337	Home Farm		
	EAHLD11348	Horton Road		
	EAHLD11607	Rosary Farm		
	EAHLD12528	Iver Landfill		
	EAHLD12532	Larbourne Farm		
	EAHLD12534	Larbourne Farm		
	EAHLD32332	St. Albans Sand and Gravel Company Limited		
	EAHLD32333	Larbourne Farm Tip		
	EAHLD32334	William Boyer and Sons Limited		
Buckinghamshire Council	EAHLD10110	Hollow Hill Lane	EAHLD11173	South of Thorney Mill Road
	EAHLD11193	Trout Lane	EAHLD11283	Thorney Mill Site
	EAHLD12518	Palmers Moor Farm	EAHLD12514	Elk Meadows Estate

Local Planning Authority	Within or intersects the Scoping Boundary		Within the Land Contamination Study Area only (does not intersect the Scoping Boundary)	
	Reference Number	Name	Reference Number	Name
	EAHLD12513	Elk Meadow Estate	EAHLD12520	Thorney Lane North
	EAHLD12515	Woodlands Park	EAHLD12523	Thorney Lane Landfill South
	EAHLD12527	Thorney Farm	EAHLD13123	Slough Road B
	EAHLD12528	Iver Landfill	EAHLD34182	Thorney Farm
	EAHLD12530	Richings Park Landfill	EAHLD34185	Land to the North of Iver Lane
	EAHLD12531	Thorney Mill		
	EAHLD12529	Thorney Mill		
	EAHLD12532	Larbourne Farm		
	EAHLD12533	Larbourne Farm		
	EAHLD12534	Larbourne Farm		
	EAHLD12611	Bagley Ditch		
	EAHLD13125	Three Valleys Water		
	EAHLD13124	Slough Road A		
	EAHLD32328	Cape Products		
	EAHLD32331	Goodman Price Limited		
	EAHLD32332	St. Albans Sand and Gravel Company Limited		

Local Planning Authority	Within or intersects the Scoping Boundary		Within the Land Contamination Study Area only (does not intersect the Scoping Boundary)	
	Reference Number	Name	Reference Number	Name
	EAHLD32333 EAHLD32334 EAHLD34176	Larbourne Farm Tip William Boyer and Sons Limited Thorney Farm 2nd Lake		
Runnymede Borough Council	n/a	n/a	n/a	n/a

Table 16-14: Permitted Landfill Information

Local Planning Authority	Within or intersects the Scoping Boundary		Within the Land Contamination Study Area only (does not intersect the Scoping Boundary)	
	Permit Reference	Name	Permit Reference	Name
London Borough of Hillingdon	NP3296NK AP3591SD WP3396NR AP3396NY AP3896NG AP3496NQ	Heathrow Landfill, Hillingdon Heathrow Express Rail Link, West Drayton Prospect Park, Moor Lane (Area 4) Prospect Park, Accomodation Lane (Area 3) The Gravel Pit North Of Sipson Lane, Harlington	n/a	n/a

Local Planning Authority	Within or intersects the Scoping Boundary		Within the Land Contamination Study Area only (does not intersect the Scoping Boundary)	
	Permit Reference	Name	Permit Reference	Name
	AP3296NR	Cranford Lane, Bath Road, Harlington		
	AP3696NL	Imperial College, Harlington		
	AP3196NW	Little Harlington Field, Sipson		
	RP3096NK	Egglesey Farm (Area A)		
	YP3591NE	Wall Garden Farm, Sipson		
	BT7183IA	Sipson Combined Inert Landfill		
	FB3106UV	Stanwell III Landfill		
	KB3434RQ	Stanwell III Landfill		
	NP3139PK	Harmondsworth Landfill Site NP3139PK		
London Borough of Hounslow	GB3404HX	Homers Farm Inert Landfill		
London Borough of Ealing	n/a	n/a	n/a	n/a
London Borough of Richmond upon Thames	n/a	n/a	n/a	n/a
	NP3193EE	Hithermoor Farm	n/a	n/a

Local Planning Authority	Within or intersects the Scoping Boundary		Within the Land Contamination Study Area only (does not intersect the Scoping Boundary)	
	Permit Reference	Name	Permit Reference	Name
Spelthorne Borough Council	EP3593EN	Lower Mill Farm, Stanwell Moor		
	FB3106UV	Stanwell III Landfill		
	GP3391LE	Hengrove Farm Landfill		
	KB3434RQ	Stanwell III Landfill		
	GB3404HX	Homers Farm Inert Landfill		
Royal Borough of Windsor and Maidenhead	RP3093EW	Wraysbury Landfill Site	EB3705XM	Hythe End Farm Landfill
	AP3093VW	Horton Brook Quarry		
	EB3505XP	Kingsmead Landfill		
	HB3409MJ	Land West Of Colne Brook		
Slough Borough Council	FB3107HU	Longford II, Poyle	ZP3193EL	Tanhouse Farm, Colnbrook
	CP3193EM	Egglesey Farm (Area C)		
	AP3093VW	Horton Brook Quarry		
	HB3409MJ	Land West Of Colne Brook		
	BU7901IP	COLNBROOK LANDFILL		

Local Planning Authority	Within or intersects the Scoping Boundary		Within the Land Contamination Study Area only (does not intersect the Scoping Boundary)	
	Permit Reference	Name	Permit Reference	Name
Buckinghamshire Council	ZP3296ND	Woodlands Park, Iver Heath	n/a	n/a
Runnymede Borough Council	n/a	n/a	n/a	n/a

Potential Sources of Contamination (Non-Landfill) - London Borough of Hillingdon

16.6.4.5 The potentially contaminative land uses within the Land Contamination Study Area in the London Borough of Hillingdon include:

- London Heathrow Airport, including terminals, aircraft hardstands, taxiways, runways, large car parks, offices and facilities buildings, fuel storage and firefighting training areas, maintenance facilities, de-icing, pollution incidents associated with historical leaks and spills of potential contaminants used during everyday airport operation;
- Commercial and light industrial areas, principally located immediately north of London Heathrow Airport, south of Harmondsworth and Sipson and east of Longford;
- Fuel filling stations;
- Railway land;
- Haulage and logistics depots;
- Garages, including vehicle servicing and repair;
- Fuel pipeline infrastructure;
- Burial grounds; and
- Electricity substations.

Potential Sources of Contamination (Non-Landfill) - London Borough of Hounslow

16.6.4.6 The potentially contaminative land uses within the Land Contamination Study Area in the London Borough of Hounslow include:

- Fuel terminals;
- Haulage and logistics depots;
- Waste water treatment works;
- Commercial and light industrial areas south, south-east and north-east of Feltham;
- Garages, including vehicle servicing and repair
- Railway land;
- Fuel filling stations;
- Allotment gardens;

- Burial grounds; and
- Electricity substations.

Potential Sources of Contamination (Non-Landfill) - London Borough of Ealing

16.6.4.7 The potentially contaminative land uses within the Land Contamination Study Area in the London Borough of Ealing include:

- Commercial and light industrial properties at the Witley Industrial Estate; and
- Electricity substations.

Potential Sources of Contamination (Non-Landfill) - London Borough of Richmond Upon Thames

16.6.4.8 The potentially contaminative land uses within the Land Contamination Study Area in the London Borough of Richmond Upon Thames include:

- Fuel filling station; and
- Garages, including vehicle servicing and repair.

Potential Sources of Contamination (Non-Landfill) - Spelthorne Borough Council

16.6.4.9 The potentially contaminative land uses within the Land Contamination Study Area in the administrative area of Spelthorne Borough Council include:

- Commercial and light industrial properties north and east of Stanwell Moor;
- Waste management facilities;
- Railway land;
- Garages, including vehicle servicing and repair;
- Hospital and medical facilities;
- Fuel filling stations;
- Trade depots (e.g., fencing, motor parts, building materials etc.);
- Burial grounds; and
- Electricity substations.

Potential Sources of Contamination (Non-Landfill) - Royal Borough of Windsor and Maidenhead

16.6.4.10 The potentially contaminative land uses within the Land Contamination Study Area in the administrative area of the Royal Borough of Windsor and Maidenhead include:

- Garages, including vehicle servicing and repair;
- Railway land;
- Waste management facilities, including skip hire and haulage depot;
- Commercial and light industrial properties at the Horton Trading Estate; and
- Electricity substations.

Potential Sources of Contamination (Non-Landfill) - Slough Borough Council

16.6.4.11 The potentially contaminative land uses within the Land Contamination Study Area in the administrative area of Slough Borough Council include:

- Commercial and industrial properties at Poyle;

- Railway land;
- Aggregate and concrete batching facilities;
- Plant hire and haulage depots;
- Waste management facilities;
- Waste water treatment works;
- Fuel filling stations; and
- Electricity substations.

Potential Sources of Contamination (Non-Landfill) - Buckinghamshire Council

16.6.4.12 The potentially contaminative land uses within the Land Contamination Study Area in the administrative area of Buckingham Council include:

- Waste water treatment works;
- Waste management facilities, including metal recycling;
- Commercial and industrial properties at the Court Lane Industrial Estate, the West London Industrial Park and the Cowley Mill Trading Estate;
- Haulage depots;
- Concrete batching facilities;
- Garages, including vehicle servicing and repair; and
- Electricity substations including Iver Substation.

Potential Sources of Contamination (Non-Landfill) – Runnymede Borough Council

16.6.4.13 The potentially contaminative land uses within the Land Contamination Study Area in the administrative area of Runnymede Borough Council include:

- Railway land;
- Allotment gardens; and
- Garages, including vehicle servicing and repair.

16.6.5 Future Baseline

16.6.5.1 There are no foreseeable significant changes anticipated in relation to Ground Conditions either prior to, or during, the construction and operational phases. It is assumed that, in accordance with standard practice, any man-made changes (e.g. due to new developments) would be appropriately permitted and operated to prevent or limit adverse impacts to ground conditions or controlled waters.

16.6.5.2 The landfills within the Scoping Boundary and Land Contamination Study Area which contain putrescible or degradable materials will continue to degrade and slowly settle.

16.6.5.3 The degradation processes will continue to produce landfill gases (including methane, carbon dioxide, carbon monoxide and hydrogen sulphide etc.) which will, with time shift in composition from a methane-dominated profile during the main stages of gassing, to a carbon dioxide dominated profile, before the main gassing phase ends. The time this takes will be variable at each landfill depending on the specific conditions, landfill construction, waste profile etc., and will occur over a timescale of decades. Certain landfills within the Scoping Boundary and Land

Contamination Study Area currently appear to collect the gas and either burn it in a flare or utilise it with a gas engine. As time passes and the gas mix produced within the landfills alters, the viability of flaring or engine use will change, and these activities may not continue to be undertaken.

16.6.5.4 The degradation processes will also continue to produce landfill leachate. Many of the landfills within the Land Contamination Study Area do not benefit from basal or sidewall engineering and operate on the 'dilute and disperse' principle whereby leachate formed within the landfill can freely enter the groundwater in the Principal and Secondary A superficial aquifers (River Terrace Deposits and Alluvium).

16.6.6 Conceptual Site Model

16.6.6.1 A preliminary Conceptual Site Model (CSM) has been prepared, informed by the baseline information reviewed during the preparation of this scoping Chapter.

Potential Sources of Contamination

16.6.6.2 The potential sources of contamination include (but are not limited to):

- Historical and permitted landfill sites;
- London Heathrow Airport, including terminals, aircraft hardstands, taxiways, runways, large car parks, offices and facilities buildings, fuel storage and potentially firefighting training areas;
- Current and historical commercial and light industrial estates areas;
- Current and historical fuel filling stations and garages, including vehicle servicing and repair;
- Current and historical depots, including aggregates, concrete batching, plant hire, haulage, logistics, fuel terminals, trades (e.g., fencing, motor parts, building materials etc);
- Current and historical fuel pipeline infrastructure;
- Current and historical waste water treatment works;
- Current and historical railway land;
- Allotment gardens;
- Burial grounds;
- Current and historical waste management facilities, waste transfer stations, metal recycling, skip hire facilities etc.;
- A hospital; and
- Current and historical electricity substations.

Potential Receptors

16.6.6.3 The potential receptors identified (relevant to the Ground Conditions Assessment) include:

- Human Health;
    - Workers constructing the Proposed Development during the construction phase;

  - Workers operating and maintaining the Proposed Development during the operational phase;
  - Users of the Proposed Development during the operational phase;
  - Residents of neighbouring and nearby residential properties, users of adjacent agricultural/undeveloped land, and workers at neighbouring commercial and industrial properties, during the construction and operational phases; and
  - Users of neighbouring recreational and institutional land.
- Groundwater within the Principal and Secondary A superficial aquifers (River Terrace Deposits and Alluvium) within the Hydrogeology and Hydrology Study Area;
- Groundwater within the Principal and Secondary A bedrock aquifers (Chalk, Harwich Formation and Lambeth Group) within the Hydrogeology and Hydrology Study Area;
- Geodiversity sites within the Geologically Designated Sites Study Area
- Surface Water within the Hydrogeology and Hydrology Study Area; and
- Buildings and Infrastructure;
  - The Proposed Development; and
  - Neighbouring Properties and Infrastructure.

Potential Pathways

16.6.6.4 The potential pathways by which contamination originating from the identified sources could impact the identified receptors include:

- Dermal absorption via direct contact with contaminated soil or groundwater;
- Ingestion or inhalation or soil particles or dust (either indoors or outdoors);
- Inhalation of volatile vapours or landfill gases (either indoors or outdoors);
- Leaching of contamination to groundwater or surface water;
- Migration of contamination via groundwater or surface water;
- Direct contact between structures and aggressive ground; and
- Gas or vapour accumulation or migration.

16.7 Likely Significant Effects Requiring Assessment

16.7.1.1 The Ground Conditions assessment will consider the construction, operation and decommissioning of the Proposed Development. Details of each of these stages are set out in Chapter 2, The Proposed Development.

16.7.1.2 The proposed scope of the Ground Conditions assessment is set out below and has been determined using the approach described in Chapter 4, Approach to EIA Scoping.

16.7.2 Construction

16.7.2.1 The potential construction phase activities that could generate impacts to human health, groundwater, surface water, terrestrial ecology, geodiversity sites and buildings and infrastructure include:

- Ground disturbance/excavations;
- Construction within areas of potentially aggressive ground or geohazards;
- Construction of piled and other foundations;
- Dewatering;
- Discharges of groundwater from dewatering;
- Excavation of tunnels and trenchless crossings; and
- General construction activities.

16.7.3 Operation

16.7.3.1 The potential operational phase activities that could generate impacts to human health, groundwater, surface water and buildings and infrastructure (the Proposed Development) include:

- General operational airfield activities, including delivery and storage of fuel, vehicle and aircraft refuelling, de-icing, firefighting training etc.

16.7.4 Decommissioning

16.7.4.1 The Proposed Development is anticipated to form a permanent part of Heathrow Airport's infrastructure and operation. The majority of its components are expected to remain in place throughout the operational life of the airport and would be subject to routine inspection, maintenance, refurbishment, renewal and replacement, as necessary. Accordingly, a separate project-wide decommissioning phase is not currently anticipated for most elements of the Proposed Development. Any future airport decommissioning would likely require its own planning consent and a separate assessment.

16.7.4.2 Where individual components of the Proposed Development are decommissioned, e.g., due to advances in technology or changes in operational requirements meaning that certain elements are no longer required or are superseded by newer technologies, the works required to decommission these elements would require a similar (likely lesser) degree of interaction with the ground as the Construction phase works. It is therefore anticipated that any Decommissioning phase effects would be similar (or less significant) than the Construction phase effects.

Table 16-15: Likely significant Ground Conditions effects

Activity	Effect	Receptor
Construction		
Mobilisation of existing contamination as a result of ground disturbance.	Exposure of a receptor to contamination.	Human health; Groundwater; and Surface water
Ground disturbance	Damage to or destruction of a receptor.	Geodiversity sites.
Construction of piled foundations and creation of preferential pathways between aquifers.	Aquifer mixing and/or exposure of a deeper aquifer to contamination present in a shallower aquifer.	Groundwater.
Excavation of basements, tunnels, trenchless crossings and other underground structures, and creation of preferential pathways between aquifers.	Aquifer mixing and/or exposure of a deeper aquifer to contamination present in a shallower aquifer.	Groundwater.
Construction of the Proposed Development within areas of potentially aggressive ground, unstable ground or geohazards.	Damage to buildings and infrastructure.	The buildings and infrastructure constructed as part of the proposed development, and neighbouring buildings and infrastructure.
Introduction of new contamination (e.g., leaks and spills) occurring as a result of general construction activities.	Exposure of a receptor to new contamination.	Human health; Groundwater; and Surface water.
Unexpected contamination being discovered during general construction activities.	Exposure of a receptor to unexpected contamination.	Human health; Groundwater; and Surface water.

Activity	Effect	Receptor
Accumulation of landfill gases and vapours within confined spaces during general construction activities.	Exposure of a receptor to landfill gases and vapours (explosion/asphyxiation).	Human health; and Buildings and infrastructure.
Operation		
Introduction of new contamination (e.g., leaks and spills) occurring as a result of operational activities.	Exposure of a receptor to new contamination.	Human health; Groundwater; and Surface water.
Ingress and accumulation of ground gases (e.g., methane, carbon dioxide, hydrogen sulphide, or reduced oxygen concentrations) and volatile vapours in buildings and confined spaces e.g., basements, structures and tunnels.	Exposure of a receptor to landfill gases and vapours (explosion/asphyxiation).	Human health; and The buildings and infrastructure constructed as part of the proposed development.

16.8 Effects Not Requiring Assessment

Table 16-16: Potential effects to be scoped out of the Ground Conditions assessment

Activity	Effect	Receptor	Justification for scoping out
Discharge (to the ground) of water abstracted as part of dewatering during construction.	Changes to groundwater quality.	Groundwater	Where dewatering is required – an environmental permit will be obtained, and impacts/effects will be controlled by the permit.

16.9 Proposed Approach to Assessment

16.9.1 Baseline Development and Further Assessment

16.9.1.1 The baseline will be further developed and informed by the following:

- A desk-based Phase 1 Ground Conditions Assessment (Land Contamination) comprising a desk-based study of published and readily available public information including historical Ordnance Survey maps, geological maps, environmental data, aerial photographs and site reconnaissance. The assessment will be informed by the data sources listed in Section 16.5 and will use the Study Areas listed in Section 16.4. The assessment will provide a Preliminary Risk Assessment (PRA) in accordance with LC:RM. The PRA includes a qualitative assessment of data including the identification of potentially contaminative current and historical activities onsite and offsite and source-pathway-receptor pollutant linkages to develop a CSM.
- A desk-based Phase 1 Ground Conditions Assessment (Land Instability). The assessment will be informed by the data sources listed in Section 16.5 and will use the Study Areas listed in Section 16.4. and will include an assessment of the potential for significant abnormal ground conditions based on the geology, geomorphology, and identified current and historical land uses.
- Combined Preliminary Ground Investigation, and Preliminary Geotechnical Assessment Reports will be prepared to inform the design of the various airside and highways works elements of the Proposed Development. These reports will include (i) an assessment of the ground conditions, (ii) preliminary recommendations in respect of foundations and other geotechnical elements of the Proposed Development, and (iii) land stability assessment.
- A GQRA report, which will refine the Conceptual Site Model developed in the Phase 1 Ground Conditions Assessment, and use the results of targeted ground investigation to evaluate the potential contaminant linkages.
- A PFAS assessment which will assess the potential risks to the Environment including Controlled Waters (groundwater and surface water) and Human Health.
- A Landfill Risk Assessment which will evaluate the hazards associated with the identified landfill sites and the potential risks to Human Health and the Environment.
  Remediation Options Appraisal & Outline Remediation Strategy.
- Where the GQRA and PFAS assessment identify potential risks that require management, a remediation options appraisal will be undertaken to identify potential remedial solutions and/or mitigation measures, and an outline remediation strategy.

16.9.2 Proposed Assessment Methodology

16.9.2.1 This section sets out the proposed methodology for the Ground Conditions assessment and builds upon the general assessment methodology presented in Chapter 4, Approach to EIA Scoping. The proposed approach is based on professional judgement and previous experience developed by the authors of the Ground Conditions chapter as described in the Statement of Expertise in

Appendix 1.1, together with guidance as set out in DMRB LA 109: Geology and Soils[32] and DMRB, LA 113: Road drainage and the water environment[33].

16.9.2.2 The baseline information would be used to identify potential source-pathway-receptor linkages and inform a risk-based assessment of the effects of the Proposed Development in relation to Ground Conditions. The risk-based assessment would be undertaken following a tiered approach, as supported by guidance provided in the Environment Agency's LCRM guidance[27] with progression through the different Tiers (Tier 1 Preliminary Risk Assessment, Tier 2 Generic Quantitative Risk Assessment and Tier 3 Detailed Quantitative Risk Assessment), dependent on the outcome of each previous Tier (therefore proportionate).

16.9.2.3 The proposed assessment will be based on a combination of desk study information and interpretative assessment of site-specific and targeted ground investigation information. Where necessary, e.g., if it had not been possible to secure access to an area of land to undertake investigation 'cautious worst case' assumptions regarding the likely ground conditions would be made when assessing effects in the ES, determined from the desk study information.

16.9.2.4 In order to evaluate whether the presence of a source of contamination could potentially lead to harmful consequences, a source-pathway-receptor methodology is adopted, with the underlying principle that the identification of pollutant linkages consists of the following three elements

- A source/ hazard (a substance or situation that has the potential to cause harm or pollution);
- A pathway (a means by which the hazard moves along/ generates exposure); and
- A receptor/ target (an entity that is vulnerable to the potential adverse effects of the hazard).

16.9.2.5 Whilst the contamination may be a hazard it would not constitute a risk unless a pathway and receptor are also present and a pollutant linkage can be determined. Therefore, in assessing the potential for contamination to cause a significant effect: the extent and nature of the potential source or sources of contamination must be assessed; any pathways present must be identified; and sensitive receptors or resources identified and appraised to determine their value and sensitivity to contamination related impacts.

16.9.2.6 Where areas of existing highway within the Scoping Boundary will remain as highway as part of the Proposed Development, with either no-in ground works proposed (e.g., new lines) or limited in-ground works proposed (e.g., installation of signage or junction improvements on minor roads) it is considered that there will not be a credible potential for significant effects to occur. These areas will not be considered further within the Ground Conditions Chapter, and will be delineated as the design of the Proposed Development progresses.

16.9.2.7 The methodology adopted in this Chapter is qualitative with a progression from factual information regarding the baseline conditions, to appraisal informed by professional judgement (**Appendix 1.1**) and expression of opinions on the relative significance.

16.9.2.8 For each potential effect the receptor sensitivity and impact magnitude would be assigned using the criteria in **Tables 16-17** and **16-18** which would then be combined to give a significance of effect using the matrix provided in **Table 16-19**.

16.9.2.9 There is no equivalent published assessment methodology that relates to impacts relating to geology (for example geodiversity). For consistency, a source – pathway – receptor approach would be adopted to assess these effects (combination of receptor identification and associated sensitivity and magnitude of potential impacts) as stated above, which is also advocated by DMRB LA 109[32].

Sensitivity

16.9.2.10 The criteria used to determine the value and sensitivity of receptors specific to Ground Conditions are set out in **Table 16-17**. These values are based on Table 3.70 of DMRB LA 113: Road drainage and the water environment[33], Table 3.11 of DMRB LA 109: Geology and soils[32] and professional judgement.

Table 16-17: Value / Sensitivity Criteria

Value / Sensitivity	General Criteria
Very High	Very high importance and rarity. International scale and limited potential for substitution. **Land Instability** Buildings and Infrastructure: Nationally significant infrastructure e.g. power stations, airports. **Geologically Designated Sites**: Very rare and of international importance with no potential for replacement (e.g. UNESCO World Heritage Sites, UNESCO Global Geoparks, SSSI and GCR where citations indicate features of international importance). Geology meeting international designation citation criteria which is not designated as such. **Contamination:** 1) human health: very high sensitivity land use such as residential or allotments. 2) surface water: Watercourse having a Water Framework Directive (WFD) classification shown in a River Basin

Value / Sensitivity	General Criteria
	Management Plan (RBMP) and Q95 ≥ 1.0 m^3/s. Site protected/designated under EC or UK legislation (SAC, SPA, Sites of SSSI, Ramsar site). 3) groundwater: Principal aquifer providing a regionally important resource and regionally important public water supplies, SPZ 1.
High	High importance and rarity. National scale and limited potential for substitution. **Land Instability** Buildings and Infrastructure: Infrastructure with a regional value e.g., large substations, large wastewater treatment works, reservoirs, motorways, high-speed railway lines. **Geologically Designated Sites:** Rare and of national importance with little potential for replacement (e.g. geological SSSI, Area of Special Scientific Interest (ASSI), National Nature Reserves (NNR)). Geology meeting national designation citation criteria which is not designated as such. **Contamination:** 1) Human health: high sensitivity land use such as public open space, and construction workers. 2) Surface water: Watercourse having a WFD classification shown in a RBMP and Q95 <1.0 m^3/s. 3) Groundwater: Principal Aquifer providing locally important resource or supporting a river ecosystem, SPZ2.
Medium	Medium or high importance and rarity, regional scale, limited potential for substitution. **Land Instability** Buildings and Infrastructure: Residential property **Geologically Designated Sites:** Regional importance with limited potential for replacement (e.g. Regionally Important Geological Sites). Geology meeting regional designation citation criteria which is not designated as such. **Contamination:** 1) Human health: medium sensitivity land use such as commercial or industrial.

Value / Sensitivity	General Criteria
	2) Surface water: Watercourses not having a WFD classification shown in a RBMP and Q95 >0.001 m^3/s. 3) Groundwater: Secondary A Aquifers. Extensive non-licensed private water abstractions (i.e. supplying ten or more properties or supplying large farming/animal estates), SPZ3.
Low	Low or medium importance and rarity, local scale **Land Instability** Buildings and Infrastructure: Commercial or industrial property of local value, small substations or pumping stations. **Geologically Designated Sites:** Local importance/interest with potential for replacement (e.g. non designated geological exposures, former quarries/mining sites). **Contamination:** 1) Human health: low sensitivity land use such as highways and rail. 2) Surface water: Watercourses not having a WFD classification shown in a RBMP and Q95 ≤0.001 m^3/s. 3) Groundwater: Secondary B or Secondary Undifferentiated Aquifer. Small scale private water abstractions (i.e. supplying fewer than ten properties).
Negligible	Very low importance and rarity, local scale. **Land Instability** Buildings and Infrastructure: Temporary structures, e.g., site cabins, stores, drying rooms. Low value, replaceable structures e.g., garden sheds. **Geologically Designated Sites:** No geological exposures, little/no local interest. **Contamination:** 1) Human health: undeveloped surplus land/no sensitive land use proposed. 2) Surface water: not present. 3) Groundwater: Unproductive strata.

Magnitude

16.9.2.11 The criteria used to determine the magnitude of change for Ground Conditions are set out in **Table 16-18**. These values are based on Table 3.71 of DMRB LA 113[33], Table 3.12 of DMRB LA 109[32], the Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance[28], CIRIA Report 552[29], and professional judgement.

Table 16-18: Magnitude Criteria

Magnitude	General Criteria
Large	**Land Instability Adverse:** A structural failure, substantial damage or substantial interference with any right of occupation or results in closure of buildings and infrastructure. **Geologically Designated Sites Adverse**: Permanent loss of geological feature/designation and/or quality and integrity, severe damage to key characteristics, features or elements. **Contamination Adverse**: Significant contamination identified, and contamination level significantly exceed human health and environmental assessment criteria with the potential for significant harm to be caused. Contamination heavily restricts future use of land. **Contamination Beneficial**: Substantial betterment of ground or groundwater quality/contamination conditions through remediation and/or mitigation.
Medium	**Land Instability Adverse:** Damage to buildings and infrastructure that requires intervention to correct but does not cause structural failure, substantial damage, and does not cause interference with right of occupation or closure of buildings and infrastructure. **Geologically Designated Sites Adverse**: Partial loss of geological feature/designation, potentially adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements. **Contamination Adverse**: Contamination levels marginally exceed human health and environment assessment criteria. Control/remediation measures are required to reduce risks to human health/make land suitable for intended use.

Magnitude	General Criteria
	Contamination Beneficial: Moderate betterment of ground or groundwater quality/contamination conditions through remediation and/or mitigation.
Small	**Land Instability Adverse:** Minor repairable damage to buildings and infrastructure, e.g. hairline cracks, extension cracking etc. **Geologically Designated Sites Adverse**: Minor measurable change in geological feature/designation attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements. **Contamination Adverse**: Contamination levels below human health and environment assessment criteria and remediation is not required. Significant contamination is unlikely with a low risk to human health. Best practice measures can be required to minimise risks to human health. **Contamination Beneficial**: Slight betterment of ground or groundwater quality/contamination conditions through remediation and/or mitigation.
Negligible	**Land Instability:** Small scale repairable damage to buildings and infrastructure such as discolouration of concrete. **Geologically Designated Sites**: Very minor change to one or more characteristics, features or elements of geological feature/designation. Overall integrity of resource not affected. **Contamination**: Contamination levels substantially below human health and environment assessment criteria and remediation is not required. No requirement for control measures to reduce risks to human health/make land suitable for intended use.

Significance of effects

16.9.2.12 Significance will be derived using the matrix set out in **Table 16-19**. This may be supplemented/informed by professional judgement, which where used would be explained to give the rationale behind the values assigned. This may occur for example where there are different levels of significance. Significant effects, in the context of the EIA Regulations 2017 would be effects of moderate or greater significance.

Table 16-19: Significance Matrix

Value / Sensitivity of Receptor						
Magnitude		Very High	High	Medium	Low	Negligible
	Large	Major	Major / Moderate	Major / Moderate / Minor	Moderate / Minor	Minor / Negligible
	Medium	Major / Moderate	Major / Moderate	Moderate / Minor	Minor / Negligible	Negligible
	Small	Major / Moderate	Moderate / Minor	Moderate / Minor	Minor / Negligible	Negligible
	Negligible	Minor / Negligible	Minor / Negligible	Minor / Negligible	Negligible	Negligible

16.9.3 Additional Baseline Information Required

16.9.3.1 As described in Section 16.9.1, the following assessments will be prepared to inform the baseline.

16.9.3.2 To support the Ground Conditions ES Chapter, the following studies will be prepared[75]:

- A desk-based Phase 1 Ground Conditions Assessment (Land Contamination);
- A desk-based Phase 1 Ground Conditions Assessment (Land Instability);
- Combined Ground Investigation, and Preliminary Geotechnical Design Reports;
- A GQRA;
- A PFAS assessment;
- A Landfill Risk Assessment; and
- Remediation Options Appraisal & Outline Remediation Strategy.

16.9.3.3 These studies will be informed by a preliminary ground investigation that will seek to provide baseline information within the accessible areas of the Scoping Boundary.

16.9.4 Cumulative Effects

16.9.4.1 As described in Chapter 4, Approach to EIA, the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 require the consideration of the potential impact of the inter-relationships and cumulative effects between existing and/or approved developments and the Proposed Development. Chapter

[75] These studies will form appendices to the ES. There is potential that further studies may be required, subject to evolving project and design requirements,

24, Cumulative and In-Combination Effects outlines the methodology for the assessment of likely significant cumulative effects of the Proposed Development.

16.9.4.2 Potential cumulative Ground Conditions effects may arise during the construction and phase of the Proposed Development as a result of interaction with the ground to facilitate construction and where both the Proposed Development and a cumulative scheme or schemes interact with the same aquifer or potential source of contamination.

16.9.4.3 It is recognised that interaction with the ground will also occur during any decommissioning that occurs. As the timeline for any decommissioning and the schemes which could be cumulative with any future decommissioning are both unknown, it is not possible to assess potential cumulative decommissioning phase effects within the Ground Conditions ES Chapter.

16.9.4.4 The approach to cumulative assessment within the Ground Conditions ES Chapter will initially consider whether shortlisted cumulative schemes are within a 500m contamination and instability Zone of Influence (ZoI) from the Scoping Boundary. This ZoI is based on professional judgement, knowledge of similar projects, DMRB LA 109[32] and DMRB LA 113[33]. The assessment will draw upon the findings of the Ground Conditions technical assessments that will support the ES.

In-Combination Effects

16.9.4.5 The potential for in combination effects will be reviewed as the design of the Proposed Development evolves and will be informed by the assessments that will be undertaken. Potential in-combination effects may occur with Chapter 5, Air Quality and Odour, Chapter 6, Biodiversity, Chapter 8, Greenhouse Gases, Chapter 18, Minerals and Waste, Chapter 20, Noise and Vibration, Chapter 21 Traffic and Transport and Chapter 22, Water Environment.

16.9.5 Limitations and Assumptions

16.9.5.1 The proposed assessment approach presented in this chapter is based on published and readily available information, together with site-specific information in accordance with a proportionate yet robust approach. Where site-specific information is not available or possible to obtain, ‘cautious worst case’ assumptions regarding the likely ground conditions will be made when assessing effects, determined from the information collated and reviewed.

16.9.5.2 The scope of assessment and likely significant effects described in this Chapter are based on the current Study Areas and the Project description provided in Chapter 3, The Proposed Development of this Scoping Report. It is anticipated that these details of the development will be subject to refinement as the Proposed Development evolves. The approach to data gathering and assessment provided within this Chapter is intended to be flexible and is expected to remain applicable as the design evolves.

16.10 Proposed Approach to Mitigation

16.10.1 Primary and Tertiary Mitigation

16.10.1.1 The Draft HENPS requires the Applicant to "clearly demonstrate… that they have applied the mitigation hierarchy", defined as "a term used to incorporate the avoid, reduce, mitigate, compensate process that applicants need to go through to protect environment and biodiversity". Within the context of Ground Conditions, this will be applied as follows:

- Avoid and Reduce – Optioneering and design optimisation to avoid potential geoenvironmental hazards, e.g., historical landfills will be undertaken where practicable. It is recognised that, for elements of the Proposed Development such as the runway and taxiways the extent to which landfills can be avoided is limited, as the location of these elements is dictated by proximity to the existing Heathrow Airport;
- Mitigate – Following completion of the ground investigation interpretative reports including a Generic Quantitative Risk Assessment, Hydrogeological Risk Assessment(s) and Foundation Works Risk Assessment(s) will be prepared. These reports will make recommendations for how environmental impacts could be mitigated for example, the GQRA may make recommendations for remediation or mitigation against potential geoenvironmental hazards, and the FWRA will inform the selection of piling methodology to prevent the creation of preferential pathways for contaminant migration; and
- Compensate – It is considered highly unlikely that a requirement for compensation would be identified, as this would not be compatible with contaminated land policy, legislation and guidance which requires contamination to be managed such that land is suitable for use.

16.10.1.2 It is anticipated that "embedded" primary[76] and tertiary[77] mitigation measures may include the following. It should be noted that at this early stage, the design, scope and extent of the Proposed Development are evolving, and the list of measures below should therefore be taken to be indicative, subject to the completion of further stages of assessment.

- Interpretative assessment of the ground conditions within the Study Areas, informed by site-specific ground investigation, to develop a robust understanding of the ground conditions at the site. The design of the Proposed Development will be based upon and informed by the understanding of the ground conditions e.g., through adoption of suitable parameters for pile and pavement design, and also through remediation of / mitigation against geoenvironmental hazards;

[76] Also known as embedded mitigation, primary mitigation refers to any modifications made to the location or design of the Proposed Development during the pre-application phase that are an inherent part of the project, and do not require additional action to be taken.

[77] Tertiary mitigation includes actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental effects.

- The inclusion of the UXO mitigation measures recommended by specialist UXO studies;
- Undertaking Foundation Works Risk Assessment (FWRA) to assess potential risks to aquifers and water supplies associated with the construction of foundations or the use of penetrative ground improvement techniques;
- Hydrogeological Risk Assessment (HRA) to assess potential risks to aquifers and water supplies associated with the construction of tunnels and trenchless crossings;
- The Construction (Design and Management) Regulations 2015[78] (CDM) regulate the health, safety and welfare of construction projects and will apply to the Scheme. A Principal Designer and a Principal Contractor (PC) will be appointed to plan, manage, monitor, and coordinate health and safety during the pre-construction and construction phases, respectively. The PC will have responsibility for ensuring legislative compliance and obtaining all permits/licenses as required. The CDM Regulations require a pre-construction information pack (PCIP) to be provided by the Applicant (the 'Client' under CDM) or by the Principal Designer if the Client delegates this duty. The PCIP contains all information that is held or is readily available and will be used by the PC to prepare construction and decommissioning phase risk assessments and method statements. The risk assessments will be informed by the findings of ground investigations undertaken within the Scoping Boundary;
- Occupational health and safety measures e.g. Personal Protective Equipment (PPE), and statutory health and safety compliance (e.g. compliance with the Confined Spaces Regulations 1997[79], in relation to ground gas from working in confined spaces or trenches) will minimise the risks associated with potential contamination;
- Appropriate training of construction and maintenance workers in the handling and use of potentially hazardous substances and the associated risks;
- The control of earthworks or materials movement (including any reuse of materials) will only be undertaken in accordance with appropriate Environmental Permits, exemptions, or the CL:AIRE The definition of Waste: The development industry Code of Practice[80];

[78] HMSO. The Construction (Design and Management) Regulations 2015. 2015. Available at https://www.legislation.gov.uk/uksi/2015/51/contents. (accessed on 10/06/2026).
[79] HMSO. The Confined Spaces Regulations 1997. 1997. Available at https://www.legislation.gov.uk/uksi/1997/1713. (accessed on: 10/06/2026).
[80] CLAIRE. The Definition of Waste: Development Industry Code of Practice (Main Document). 2011. Available at https://claire.co.uk/phocadownload//Definition%20of%20Waste.%20Development%20Industry%20Code%20of%20Practice.pdf. (accessed on: 10/06/2026).

- Any temporary dewatering activities during construction will be undertaken in accordance with EA guidance[81,82,83] and will include appropriate assessment undertaken as required by the guidance[84]. If required, an Abstraction Licence and Environmental Permit will be obtained for the discharge. Such works will be limited to the depth and time required to facilitate construction activities;
- An awareness briefing regarding ground conditions and appropriate methods of working to limit disturbance of potentially contaminated soil or water, where practicable;
- Measures to minimise exposure to contaminated soils e.g. by controlling dust generation and the adoption of good hygiene standards will prevent prolonged skin contact, inhalation, and ingestion of soils during construction;
- Measures to minimise and control runoff and/or leaching to controlled waters; and
- A protocol for dealing within any unexpected contamination, which may include
    - Details of a watching brief and toolbox talks to be implemented throughout the construction phase;
    - Details regarding how any affected area will be delineated, protected, investigated and assessed;
    - The qualifications and competencies of the person appointed to oversee the works;
    - The preparation of a method statement for how the contamination will be dealt with or remediated (as appropriate);
    - An escalation policy describing when and how any notifications and approvals will be agreed with the relevant planning authority; and
    - Details of verification procedures for any mitigation or remediation works.

16.10.2 Secondary Mitigation

16.10.2.1 Following the incorporation of primary and tertiary mitigation, it is not anticipated that secondary[85] mitigation will be required, however this will assessed and proposed within the ES.

[81] Environment Agency. Temporary dewatering from excavations to surface water: RPS 261. 2026. Available at https://www.gov.uk/government/publications/temporary-dewatering-from-excavations-to-surface-water-rps-261/temporary-dewatering-from-excavations-to-surface-water. (accessed on: 10/06/2026).
[82] Environment Agency. Discharges to surface water and groundwater: environmental permits. 2026. Available at https://www.gov.uk/guidance/discharges-to-surface-water-and-groundwater-environmental-permits. (accessed July 2026).
[83] Environment Agency. Groundwater activity exclusions from environmental permits. 2021. Available at https://www.gov.uk/government/publications/groundwater-activity-exclusions-from-environmental-permits/groundwater-activity-exclusions-from-environmental-permits. (accessed on: 10/06/2026).
[84] Environment Agency. Hydrogeological impact appraisal for dewatering abstractions. 2007. Available at https://www.gov.uk/government/publications/hydrogeological-impact-appraisal-for-dewatering-abstractions. (accessed on: 10/06/2026).
[85] Secondary mitigation includes actions that will require further activity in order to achieve the anticipated outcome. These may be imposed as part of the planning consent.

16.11 Summary

16.11.1.1 The likely elements that could result in significant effects requiring assessment and proposed to be scoped into, and the elements not likely to result in significant effects and therefore proposed to be scoped out of the Ground Conditions Chapter are summarised in **Table 16-20** below.

Table 16-20: Elements scoped in/out of Ground Conditions assessment

Discipline	Scoped In Elements	Scoped Out Elements
Ground Conditions	Mobilisation of existing contamination as a result of ground disturbance during the construction phase, resulting in exposure of human health, groundwater and surface water receptors to contamination. Construction of piled foundations, excavation of basements, tunnels trenchless crossings and other underground structures during the construction phase resulting in creation of pathways resulting in aquifer mixing and/or exposure of a deeper aquifer to contamination present in a shallower aquifer. Ground disturbance from construction activities during the construction phase resulting in damage to/destruction of geodiversity sites.	Discharge (to the ground) of water abstracted as part of dewatering during construction resulting in changes in groundwater quality.

Discipline	Scoped In Elements	Scoped Out Elements
	Construction of the Proposed Development within areas of potentially aggressive ground, unstable ground or geohazards resulting in damage to the structures and infrastructure constructed as part of the proposed development, neighbouring properties and infrastructure. Introduction of new contamination (e.g., leaks and spills) occurring as a result of general construction activities, resulting in exposure of human health, groundwater and surface water receptors to contamination. Unexpected contamination being discovered during general construction activities, resulting in exposure of human health, groundwater and surface water receptors to contamination.	

Discipline	Scoped In Elements	Scoped Out Elements
	Accumulation of landfill gases and vapours within confined spaces during general construction activities, resulting in damage or destruction of buildings and infrastructure or asphyxiation of a human health receptor. Introduction of new contamination (e.g., leaks and spills) occurring as a result of operational activities, resulting in exposure of human health, groundwater and surface water receptors to contamination. Ingress and accumulation of ground gas and volatile vapours in buildings and confined spaces e.g., basements, structures and tunnels resulting in explosion, asphyxiation or exposure during the operational phase.	

Environmental Impact Assessment Scoping Report

Chapter 17

Agricultural Land and Soils

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17 Agricultural Land and Soils

17.1 Introduction

17.1.1.1 This Chapter of the Environmental Impact Assessment (EIA) Scoping Report has been prepared by Kernon Countryside Consultants Ltd. It sets out the potential effects of the Proposed Development on agricultural land and soils, which will be reported in the Environmental Statement (ES).

17.1.1.2 The Chapter will assess four principal considerations:

- Effects on agricultural land quality, as measured under the Agricultural Land Classification (ALC)1;
- Effects on soils as a resource distinct from ALC grade;
- Effects on local farm and land-based rural enterprises;
- Wider implications for the rural economy and food production.

17.1.1.3 The Chapter can be read in isolation, but soils are relevant to other Chapters such as Biodiversity, Water Environment, Landscape and Ground Conditions will form part of the ES.

17.2 Policy, Legislation and Guidance

17.2.1.1 This section identifies the relevant topic specific policies that have informed the scope and, where relevant, the study area of the assessment. Further information on the policies relevant to the EIA and their status is set out in **Section 1.9**, which should be read in conjunction with this chapter.

[1] Defra 2025 'ALC of England and Wales: Guidelines for grading the quality of agricultural land'.

Table 17-1: Policy relevant to the Agricultural Land and Soils assessment

Relevant Policy / Legislation	Relevance to assessment
Policy – National	
Airports National Policy Statement (2018)[2]	This advises that the economic and other benefits of the Best and Most Versatile (BMV) land should be taken into account and where significant development is necessary, seek to use poorer quality land in preference (para 5.115). The Secretary of State will take into account the economic and other benefits of the best and most versatile agricultural land, and ensure appropriate mitigation measures to minimise impacts on soils and soil resources is put forward (para 5.126).
Proposed draft revision to the ANPS (2026)[3]	Soil resources should be sustainably managed (5.187). The impacts on BMV land should be minimised, with a preference of poorer quality land (5.193). A Soil Management Plan should be considered (5.194). The Secretary of State will ensure the use of BMV land is not without justification, and appropriate mitigation is put forward (5.207).
National Planning Policy Framework (NPPF)[4]	This provides national policy governing the development for non-agricultural purposes of land of good quality (Policy N2). This defines the Best and Most Versatile (BMV) agricultural land as that falling into ALC Grades 1, 2 and 3a of the ALC (Annex B).
Guidance	
Planning Practice Guidance: Natural Environment (June 2025)	This sets out a brief synopsis of relevant policy and guidance.
Natural England's Guide to assessing development proposals on agricultural land[5]	This guide summarises relevant considerations. It advises on the ALC system.

[2] Department for Transport, Airports National Policy Statement (June 2018).
[3] Department for Transport, Proposed draft revision to the Airports National Policy Statement (June 2026).
[4] Ministry of Housing, Communities and Local Government (MHCLG) (2026) National Planning Policy Framework (online).
[5] Natural England, Guide to assessing development proposals on agricultural land (24 July 2026).

Relevant Policy / Legislation	Relevance to assessment
The Institute of Sustainability and Environmental Professionals (ISEP) Guide "A New Perspective on Land and Soils in Environmental Impact Assessment" (February 2022)	This document is not mandatory but it provides guidance on assessing impacts on soils and agricultural land.
ISEP Guide "Soil Heath and Environmental Impact Assessment" (December 2025)[6]	This document provides guidance specifically on soil health.
Department for the Environment, Food and Rural Affairs (Defra) "Construction Code of Practice for the Sustainable Use of Soils on Construction Sites" (2009)[7]	Though not updated or reviewed since 2009 this document sets out good practice for the handling of soils during construction and continues to be widely referred to.
The Institute of Quarrying 'Good Practice Guide for Handling Soils'[8]	This sets out detailed guidance for assessing when soils are suitable for being handled or driven over.

17.3 Stakeholder Engagement

17.3.1.1 No stakeholder involvement has been undertaken as part of this Scoping Report for Agricultural Land and Soils. Future consultation will take place as the EIA progresses with Natural England in respect of the Agricultural Land and Soils assessment approach and effect.

17.4 Study Area

17.4.1.1 The Study Area for the Agricultural Land and Soils Chapter is defined by the Scoping Boundary. The assessment of effects on agricultural land and soils will consider all areas within the Scoping Boundary that are in agricultural use, or which could be returned to agricultural use relatively easily without significant disturbance to soils (e.g. areas being used for grazing or keeping horses).

17.4.1.2 Agricultural land and soils outwith the Scoping Boundary are not likely to be affected. The potential for alterations to drainage of adjacent land will however be considered.

[6] ISEP, Soil Heath and Environmental Impact Assessment (December 2025).
[7] Department for the Environment, Food and Rural Affairs "Construction Code of Practice for the Sustainable Use of Soils on Construction Site" (2009).
[8] The Institute of Quarrying, 'Good Practice Guide for Handling Soils' (2021).

17.5 Sources of Data used in Scoping

17.5.1 Baseline Sources

17.5.1.1 This Scoping Report is based on data available at the time of issue. As described in section 17.9 under Methodology, detailed information will be collected for use in the assessment and will be reported in the Environmental Statement.

17.5.1.2 Agricultural land quality is measured under a system of Agricultural Land Classification (ALC)[9]. This divides agricultural land into five grades, 1 to 5, with Grade 3 divided into subgrades of 3a and 3b. Land quality is based on the inherent potential of land based on its locational (e.g. climate), physical and chemical properties, and the important interaction between them. To determine land quality accurately it is necessary to undertake detailed field survey.

17.5.1.3 In May 2026 the Department for the Environment, Food and Rural Affairs published the Predictive Agricultural Land Classification Map for England[10]. This sets out the predictive ALC grade of agricultural land. Whilst it is only predictive, it does enable an assessment for scoping purposes of the likelihood of finding land of BMV quality within the Scoping Boundary.

17.5.1.4 The multi-agency governmental information website for the countryside (www.magic.gov.uk) includes the results of historic surveys by the Ministry of Agriculture, Fisheries and Food (MAFF) or its agencies. This has been reviewed. In areas where ALC surveys have been completed and are available, these will provide reliable ALC data, provided that the land areas have not been subject to soil movement works since the date of the ALC survey.

17.5.1.5 From May 2026, the National Soil Map[11] has also been digitised and is available on ArcGIS and has also been reviewed. The National Soil Map gives an indication of the soil type expected to be found in an area.

17.5.1.6 The combination of these sources of data provides either known ALC results (if areas have been surveyed) or an indication of likely land quality. These do not provide definitive ALC results, for which a field survey will be necessary, but they do provide a good indication of the likelihood of good quality land being found and therefore are useful for the purposes of scoping the Agricultural Land and Soils Chapter.

[9] Department for the Environment, Good and Rural Affairs (Defra), Agricultural Land Classification of England and Wales: Guidelines for grading the quality of agricultural land (2025).
[10] ArcGIS (online), Predictive Agricultural Land Classification Map for England (2026).
[11] LandIS, National Soils Map of England and Wales, available online.

Table 17-2: Data sources used for scoping

Source	Relevance to the assessment
Predictive ALC Map for England	Provides a prediction of ALC grade
Multi-agency Geographic Information for the Countryside (www.magic.gov.uk)	Provides a record of historic ALC surveys
Google Earth and Streetview	To assess where land is being farmed

17.6 Baseline conditions

17.6.1 Baseline Description

Agricultural Land

17.6.1.1 The results of available surveys, some from 30 years ago (but under the ALC methodology that remains current under the 2025 update), have identified that land quality is generally very good or excellent to the north of the current Heathrow Airport. The Predictive ALC map shows the areas north and west of the airport predicted to be of ALC Grades 1 and 2, so “excellent” and “very good” quality respectively.

17.6.1.2 The land further to the west and south has partly been surveyed as ALC Subgrade 3a “good quality”. Mostly it is predicted to be of Subgrades 3a “good quality” and 3b “moderate quality”.

17.6.1.3 Overall, therefore, there is the potential for a significant proportion of agricultural land within the Scoping Boundary to be of BMV quality.

Soils

17.6.1.4 Soil as a natural resource provides multiple functions, including biomass (especially food) production, ecological habitat, storage of soil carbon, water regulation, and cultural and landscape functions. These could be affected if soils are disturbed or damaged, and are all considered within the assessment of effects on soils.

17.6.1.5 The soils are mapped as likely to comprise a mix of loams, silty loams and loamy sand soils, with the Field Capacity Days (for ALC) at about 139 days per annum. The soils are likely to be only moderately resilient to structural damage. Therefore there are likely to be soils within the Scoping Boundary which could be moderately susceptible to structural damage if moved or trafficked over when not in a sufficiently dry state.

Local Farming and Food

17.6.1.6 Individual farming circumstances are not possible to identify at this stage, and will be informed by further survey. However, from a review of available aerial data it appears that significant parts of the Scoping Boundary are farmed.

Future Baseline

17.6.1.7 In the absence of any development the baseline is not expected to change.

17.7 Likely Significant Effects Requiring Assessment

17.7.1.1 Agricultural land and soils are likely to be affected by construction works. In most cases the works for construction will involve the permanent and irreversible loss of agricultural land. Even in areas where agricultural land is not built upon, the change of use to non-agricultural uses is likely to be permanent and it will be assumed that the land is irreversibly developed, for the purposes of this assessment.

17.7.1.2 Soils may be lost as a result of the construction works. In parts of the Site the soils will be moved for use elsewhere within the Site, and in those areas there is the potential for the resource to be structurally damaged by the works. There may be areas where land use changes but the soils are undisturbed.

17.7.1.3 The effects on occupying farm and land-based businesses will normally result when the land is taken for development and the land use changes. As the land loss from each enterprise will be permanent, there is the potential for adverse effects which will need to be assessed.

17.7.1.4 There may be some works which are of a temporary duration, such as construction compounds, tracks and haul roads, storage areas and utility works, where impacts on soil are temporary. There may be temporary works where agricultural use will resume post construction, such as haul routes.

17.7.1.5 The effects on agricultural land and farm businesses are likely therefore to occur during construction, and are likely to be permanent. The effects on soils are likely to occur during construction, but will not be further impacted during operation. Therefore, all effects are considered at the construction phase.

17.7.2 Construction

Agricultural Land

17.7.2.1 Given the known and predicted Grades 1, 2 and 3a quality land within the Scoping Boundary, there is the potential for a significant adverse effect on agricultural land. This is because there is the potential for the Proposed Development to result in the permanent loss or land quality downgrading of agricultural land through the construction works or due to a permanent land use change.

Soils

17.7.2.2 The soils are likely to be moderately resilient to being moved or trafficked, and this has the potential to result in a loss of soil as a resource, or an adverse impact on its characteristics. Soils are generally moderately resilient to being moved or trafficked over, but the impacts will depend upon timing, and good practice will be required to mitigate significant impacts or potential for significant impacts.

Local Farming and Food

17.7.2.3 Parts of the Scoping Boundary are farmed, parts are farmed at low intensity or not at all. Analysis of available aerial photography and Streetview images has not identified any agricultural enterprises which are particularly sensitive to the location of land, such as dairy farming (where cows need access to grazing land near to milking shed). It seems unlikely that a significant impact will result on local farming operations or the wider rural economy or food supply, but this will be fully assessed as part of the Environmental Statement.

17.7.3 Operation

17.7.3.1 Most agricultural land and soils impacts occur at construction and are permanent. Agricultural land quality and land use will normally cease at the construction phase, and the effects will be permanent. Impacts on soils normally arise from construction works and there is no further movement or handling of soils once construction is complete. Therefore no further effects on agricultural land and soils are likely during the operation phase.

17.7.4 Decommissioning

17.7.4.1 The decommissioning effects are not likely to exceed those considered for construction.

Table 17-3: Likely significant Agricultural Land and Soils effects

Activity	Effect	Receptor
Construction		
Development on/of agricultural land	Loss/damage	Land of BMV
Development on/of agricultural land	Loss/damage soils	Sensitive soils
Development on/of agricultural land	Disturbance	Local farms
Operation		

Activity	Effect	Receptor
No further effects		
Decommissioning		
No further effects		

17.8 Effects Not Requiring Assessment

17.8.1.1 All potential agricultural effects will require assessment. However this will be required for the construction phase only. There will be no further effects during operation or decommissioning, which can be scoped out.

17.9 Proposed Approach to Assessment

17.9.1 Data Collection

17.9.1.1 The assessment will first collect the necessary baseline data to enable an informed decision to be made. This will involve obtaining detailed ALC information, through field survey, together with detailed information about the soil types across the Scoping Boundary. This will involve fieldwork with a soil auger and spade, inspecting land on a regular 100m grid.

17.9.1.2 Information about the occupying farm and land-based businesses will be collected by interviews with occupiers, either face-to-face or by telephone as is appropriate for each particular circumstance, and supplemented by walk-over field surveys to validate information collected and to provide information to assess any potential effects such as noise-sensitive livestock enterprises.

17.9.2 Additional Baseline Information Required

17.9.2.1 The assessment will then determine the significance of impacts, be they adverse or beneficial, based on an assessment of their magnitude and sensitivity.

17.9.2.2 Effects will be identified as permanent or temporary. The assessment will be careful to identify whether any temporary works, such as construction haul routes, have the potential to result in permanent effects on agricultural land or soils, such as irreversible land-quality downgrading. Any such effects will be classified as permanent.

17.9.2.3 The assessment will determine the significance of effects based on the magnitude and sensitivity of the impacts.

Receptor Sensitivity

17.9.2.4 The sensitivity of each receptor will be evaluated as being high, medium, or low based on a review of the baseline position of each receptor. The definition of sensitivity of a receptor is based on a scale set out in **Table 17.4**. The Predictive ALC Map for England, and the related research report[12], estimate that 50.9% of agricultural land in England is of BMV quality. BMV land is classified as of high sensitivity, but recognising that it is not a rare resource. The assessment approach to be adopted will result in the permanent loss of more than 20 ha of BMV land being identified as a significant adverse effect.

17.9.2.5 Soils as a resource are important for their carbon storage and other properties, as summarised in **paragraph 17.6.1.4**. Soils are generally resilient to being moved, but clayey soils in wetter areas are susceptible to being damaged if handled in unsuitable conditions. The sensitivity criteria are based on the details in the ISEP Guide Table 4.

17.9.2.6 Farms are continually adapting to changes. Farms have to adapt to weather, climate change, changing consumer demands, changing prices, family or staff illness, disease, personal preferences, Government initiatives, fire or disaster, and all farm businesses are therefore continually changing and adapting. Accordingly no farms are considered to be of high sensitivity.

Table 17-4: Receptor Sensitivity Description

Value (Sensitivity)	Description		
	Agricultural Land Quality	Soils Sensitivity to Structural Damage	Effects on Farm Businesses
High	Land of ALC Grades 1, 2 and 3a	High clay soils where the Field Capacity Days# (FCD) is > 150, or medium textured soils where the FCD is >225	No farms are of high sensitivity
Medium	Land of ALC Subgrade 3b	High clay soils## where the FCD is <150, or medium textured soils where the FCD is <225	Full time farm businesses where the location of land is particularly important such as dairy farms. Land-based economy impacts outwith the Site boundary

[12] Cranfield Environment and Agrifood, "Development of a Predictive Agricultural Land Classification Map for England", (July 2025)

Value (Sensitivity)	Description		
	Agricultural Land Quality	Soils Sensitivity to Structural Damage	Effects on Farm Businesses
Low	Land of ALC Grades 4 and 5	Soils with a high sand fraction where the FCD is <225	Farms with low sensitivity to change e.g. arable land, part-time farms or where land is held on short term arrangements

[#] This is the number of days per annum when the soils are saturated with water. The FCD is determined under the ALC climate data assessment.

[##] Clays, silty clays, sandy clays, heavy silty clays, heavy clay loams, and organo-mineral and peaty soils.

Receptor Magnitude

17.9.2.7 The magnitude of impact to a receptor will be determined by considering the estimated deviation from baseline conditions both before, and, if required, after mitigation. Consideration will be given to primary and tertiary mitigation, and an assessment will be made of the residual effect. The scale used for determining the magnitude of an impact is set out in **Table 17.5**. This varies from the thresholds in the ISEP Guide, because those thresholds result in moderate adverse impacts at levels which are not significant in planning terms (e.g. 21 ha of non-BMV land should not be a significant adverse effect). The thresholds used are those commonly used for EIA prior to the ISEP Guide's publication and are based on historic practice and professional judgement. The thresholds used in this assessment mean that the loss or downgrading of 20 ha or more of BMV land is recorded as a significant effect in EIA terms.

Table 17-5: Magnitude of Impact Description

Impact Magnitude	Description	
	Agricultural Land Quality and Soils	Farm Businesses
High	The Proposed Development would directly lead to the loss (including permanent sealing or land quality downgrading) of over 50 ha of soil-related features; or potential for improvement in one or more soil functions over an area of more than 50 ha.	Full-time agricultural business would be rendered non-viable

Impact Magnitude	Description	
	Agricultural Land Quality and Soils	Farm Businesses
Medium	The Proposed Development would directly lead to the loss (including permanent sealing or land quality downgrading) over an area of between 20 ha and 50 ha of soil-related features; or potential improvement in one or more soil functions over an area of between 5 ha and 20 ha.	Significant changes in the day-to-day management of a full-time agricultural business, or closure of a part-time agricultural business. Loss of buildings or impacts on drainage or water supplies affecting the potential for at least 5 ha of adjacent land to be farmed fully.
Low	The Proposed Development would directly lead to the loss (including permanent sealing or land downgrading) of less than 20 ha of soil-related functions; or potential for improvement in one or more soil functions over an area of less than 20 ha; or temporary and reversible impacts.	Minor changes in the day-to-day management/structure of a full-time agricultural business or land required would have a significant effect on a part-time business. Minor effects, direct or indirect, on surrounding land beyond the boundaries of the Site.
Negligible	No discernible loss or reduction or improvement of soil functions or volumes.	Land required would require only negligible changes in the day-to-day management of a full-time agricultural business or land would require only minor changes to a part-time farm business.

Determining Significance

17.9.2.8 Table 17.6 provides a matrix for determining the significance of an effect based on the sensitivity of the receptor and the magnitude of impact. There is no planning policy constraint to using non-BMV land for non-agricultural development, so the loss of any magnitude of land of this quality is not considered to be an impact of major adverse significance. The threshold for consultation with Natural England[13] under applications in relation to the Town and Country Planning Act 1990 is the loss of 20 ha or more of BMV where not included in a development plan, so losses in excess of 20 ha of BMV land are considered significant in EIA terms for the purposes of this Proposed Development under the Planning Act 2008, and the

[13] Town and Country Planning (Development Management Procedure) (England) Order 2015

assessment reflects that. For these reasons the thresholds have been varied from those used in the ISEP Guide.

Table 17-6: Significance of Effect Matrix

Magnitude of Impact	Sensitivity or Value		
	High	Medium	Low
High	Major adverse / beneficial	Moderate adverse / beneficial	Minor adverse / beneficial
Medium	Moderate adverse / beneficial	Minor adverse / beneficial	Minor adverse / beneficial
Low	Minor adverse / beneficial	Minor adverse / beneficial	Minor adverse / beneficial
Negligible	Negligible	Negligible	Negligible

17.9.2.9 Effects classified as major and moderate are considered 'significant' in EIA terms. Effects classified as minor may be material in local decision taking terms. Effects classified as minor or negligible are considered 'not significant' in EIA terms.

17.9.3 Additional Baseline Information Required

17.9.3.1 The assessment will be based on full detailed knowledge of the agricultural land, soil and occupying rural businesses. This information will be obtained from field surveys and interviews, as described under the Data Collection heading in 17.9.1. For the assessment, the following surveys will be undertaken:

- Detailed Agricultural Land Classification field survey to determine ALC grades across the Scoping Boundary;
- Detailed soil survey to determine soil characteristics across the Scoping Assessment;
- Farm interviews and field surveys to identify local farming circumstances.

17.9.4 Cumulative Effects

17.9.4.1 The potential for cumulative effects will be considered in accordance with the cumulative effects methodology adopted for the EIA. Given the localised nature of agricultural land and soil receptors, significant cumulative effects are not currently anticipated but will be reviewed following confirmation of the cumulative developments list.

17.9.5 In-Combination Effects

17.9.5.1 The assessment will consider any in-combination effects. These could include links with biodiversity, the water environment, landscape (through its use of soils), climate and ground conditions.

17.9.6 Limitations and Assumptions

17.9.6.1 This scoping assessment assumes that the available published data on soils and land quality is sufficiently accurate for the purposes of scoping.

17.9.6.2 There are no significant limitations to the assessment at this stage, for the purposes of scoping.

17.10 Proposed Approach to Mitigation

17.10.1.1 The approach to mitigation will be to avoid disturbance if possible and minimise the use of agricultural land and soils through design, especially land of BMV quality. Where BMV land and other agricultural land and soils needs to be disturbed, this will be kept to a minimum. Where soils are disturbed, so far as is practicable these soils will be reused within the development, and if restored following construction they will be restored to the original ALC grade where possible.

17.10.1.2 For areas where the land use will change, either for construction works or associated land use changes (including landscaping), the loss of agricultural land is likely to be permanent and cannot be mitigated.

17.10.1.3 The effects on soils as a resource can, however, be minimised or mitigated through careful management and good soil handling practices. This can be controlled through good working practices and set out in a Soil Resources and Management Plan. This will set out the soil resources, once determined in detail through the ALC and soil surveys, and will set out mitigation to minimise impacts through soil stripping and moving, soil storage and soil restoration, or protection of soils not being moved from damage from vehicle trafficking or other construction or operational impacts.

17.10.1.4 Potential impacts on other land, such as access to agricultural land or severance, will be identified in the assessment process, and will be minimised by design or through the Construction Management Plan or other construction methodology documents. Access to farm land will be maintained throughout the construction and operation.

17.10.1.5 Therefore, adverse effects on soils and agricultural land will be minimised through design, and minimised and mitigated through working practices.

17.11 Summary

17.11.1.1 The table below provides a short summary of scoped in and scoped out elements.

Table 17-7: Elements scoped in/out of Agricultural Land and Soils Assessment

Discipline	Scoped In Elements	Scoped Out Elements
Agricultural Land	Loss of land of BMV quality	Impacts on agricultural land at the operation phase.
	Downgrading of agricultural land	
	Loss or impacts on lower quality agricultural land	
Soils	Loss of soils	Effects on soils for areas not being managed for agriculture during the operation phase.
	Adverse effects on soil structure during construction works	
	Adverse effects on soil structure from construction activity	
	Temporary use or movement of soils	
Farm business and wider effects	Adverse effects on land-based businesses	Effects on farm businesses within the Scoping Boundary post construction.
	Construction phase impacts on land businesses	
	Wider implications for food production	

Environmental Impact Assessment Scoping Report

Chapter 18

Materials and Waste

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Appendices

Appendix 18.1: Materials and Waste Policy

18 Materials and Waste

18.1 Introduction

18.1.1.1 This Chapter of the EIA Scoping Report has been prepared by Continuplan and Stantec and sets out the likely significant effects on the issues of materials and waste management (including minerals safeguarding) resulting from the Proposed Development that will be reported in the ES.

18.1.1.2 The assessment will address the opportunities to prevent, minimise, reuse and recycle waste to meet materials requirements associated with the construction of the Proposed Development, and issues in respect of the safeguarding and supply of aggregate minerals.

18.1.1.3 The assessment will also address the types and volumes of wastes generated during the construction and operational phases of the Proposed Development, and how this waste could be managed both on and off-site in accordance with planning and legislative requirements.

18.1.1.4 The Proposed Development is intended to be permanent and no reasonably foreseeable decommissioning phase forms part of it. Maintenance, refurbishment and replacement activities reasonably expected during operation will be considered within the operational assessment where relevant.

18.1.1.5 For the purpose of this EIA Scoping Report, materials are considered to include construction aggregates and fill material, including aggregates, concrete, steel, asphalt, bricks, glass and timber required for the construction of the Proposed Development.

18.1.1.6 Waste is considered to be as defined by the European Waste Framework Directive (2008/98/EC)[1] as: "*any substance or object which the holder discards or intends or is required to discard*".

18.1.1.7 Excavated arisings of soil, sand, gravel or similar materials may be reused without being regarded as waste where they comprise clean, naturally occurring material that is reused on the site of origin. Excavated materials may also be reused in accordance with the CL:AIRE Definition of Waste: Development Industry Code of Practice[2] (DoW CoP), where the relevant criteria are met, including that the material is suitable for use; reuse of excavated material is a certainty; only the

[1] European Parliament and Council. Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives. *Official Journal of the European Union*, L312, 22 November 2008, pp. 3–30.
[2] CL:AIRE. *The Definition of Waste: Development Industry Code of Practice*, Version 2. March 2011.

required volume of material will be used; and the material will not harm the environment or human health.

18.1.1.8 This Chapter should be read in conjunction with the Chapters listed in the following paragraph, which all have potential to interface and interact with Materials and Waste to some degree in their assessment of certain impacts. For example, with respect to transport, the impact of removing waste from site on wider landfill capacity is assessed in the Materials and Waste Chapter, but the impacts of transporting the waste to the landfill will be assessed in the Traffic and Transport Chapter.

18.1.1.9 The ES Chapters where there is obvious potential interface or interaction with Materials and Waste are:

- **Chapter 21: Traffic and Transport** (impacts of transporting waste off-site);
- **Chapter 16: Ground Conditions** (earthworks, management and strategies for contaminated land, geology);
- **Chapter 8: Greenhouse Gases** (assessment of carbon emissions and wider climate related impacts of materials and waste management);
- **Chapter 9: Climate Change** (assessment of wider climate related impacts of materials and waste management);
- **Chapter 15: Landscape, Townscape and Visual Impacts** (visual impacts of earthworks and mounds/bunds created);
- **Chapter 22: Water Environment** (impacts of on-site materials and waste management upon hydrology and hydrogeology);
- **Chapter 20: Noise and Vibration** (impacts of on-site materials and waste management on noise and vibration);
- **Chapter 5: Air Quality and Odour** (impacts of on-site materials and waste management on air quality);
- **Chapter 17: Agricultural Land and Soils** (impacts on agricultural soil resources and soil quality);
- **Chapter 19: Major Accidents and Disasters** (impacts related to the on-site management and off-site transportation of materials and waste).

18.1.1.10 The identification of the above Chapters where there is potential interface or interaction does not imply that all these Chapters will scope in Materials and Waste related matters for EIA – it merely seeks to clarify where these issues have been assessed and scoped.

18.2 Policy, Legislation and Guidance

18.2.1.1 The Materials and Waste assessment will be informed by relevant national, regional and local planning policy, legislation and guidance relating to the sustainable use of materials, mineral safeguarding, waste prevention and management, resource efficiency and the circular economy. The detailed policy, legislation and guidance relevant to the assessment is set out in Appendix 18.1 of Volume III, which is intended as a high-level overview of relevant legislation, policy

and guidance as they apply to materials and waste generally and to the HWL Project, not as an exhaustive list of everything which applies to the sector as a whole. Further documents are likely to be identified as the EIA progresses, and will be referenced within material produced later in the process.

18.2.1.2 In summary, at the national level, the assessment will have regard to planning policy and guidance relating to the sustainable supply and safeguarding of mineral resources and infrastructure, the waste hierarchy, waste prevention, resource efficiency, circular economy principles and the provision and safeguarding of waste-management capacity. The Airports National Policy Statement[3] and the emerging draft Heathrow Expansion National Policy Statement are also relevant to the assessment of materials and waste associated with Heathrow expansion, including mineral safeguarding, resource efficiency, waste-management capacity and the potential effects associated with the loss of Lakeside Energy from Waste.

18.2.1.3 At regional and local level, relevant policy includes the London Plan, the West London Waste Plan and the development plans and minerals and waste planning documents of authorities within and around the Wider Study Area. These documents provide the policy context for matters including aggregate supply, mineral safeguarding and prior extraction, recycled and secondary aggregates, waste-management capacity, safeguarding of waste infrastructure and the management of construction, demolition, excavation and operational waste. The assessment will also take account of relevant environmental and waste legislation governing matters including the waste hierarchy, duty of care, environmental permitting, hazardous waste, residual-waste targets, waste separation and digital waste tracking. Relevant professional and Government guidance will inform the assessment methodology and the management and reuse of materials and waste, including the ISEP Materials and Waste in Environmental Impact Assessment guidance, Planning Practice Guidance, the CL:AIRE Definition of Waste: Development Industry Code of Practice and relevant minerals, waste and circular-economy guidance.

18.3 Stakeholder Engagement

18.3.1.1 In respect of materials and waste, HWL will engage with statutory stakeholders, and other stakeholders with a material interest in the nature of the Proposed Development and the management of its impacts on the local area and more widely. HWL will engage with local authorities and communities that are not immediate neighbours to Heathrow airport, but who are impacted by its current operations and/or would be impacted by the Proposed Development.

18.3.1.2 Previous scoping exercises and environmental assessment work undertaken in relation to Heathrow expansion have been reviewed to identify potentially relevant materials and waste issues and stakeholder considerations. These relate to

[3] Department for Transport (2018). *Airports National Policy Statement: New Runway Capacity and Infrastructure at Airports in the South East of England*. June 2018.

different development proposals and are therefore treated as relevant precedent and background information rather than as establishing requirements for the Proposed Development. The current assessment will have regard to the relevant policy framework, including the designated Airports National Policy Statement and the emerging draft Heathrow Expansion National Policy Statement[4].

18.3.1.3 In addition, due to the likely volumes of construction aggregates required, excavation arisings likely to be generated and waste likely to arise from the Proposed Development, topic-specific engagement will be undertaken as the EIA progresses with relevant minerals and waste planning bodies and other organisations with an interest in the assessment. This will include, as appropriate, the Environment Agency, relevant Aggregates Working Parties and waste planning groups, the Mineral Products Association, the Environmental Services Association, relevant local planning and waste planning authorities, and other bodies involved in the coordination of minerals and waste planning.

18.3.1.4 Engagement will seek, where appropriate, to inform the assessment approach; obtain and review relevant baseline information; consider regional and sub-regional aggregate supply, waste-management and landfill capacity; and consider anticipated material requirements and waste arisings as project information develops.

18.3.1.5 Topic-specific engagement will also be undertaken with the operator and other relevant parties in respect of Lakeside Energy from Waste to inform the assessment of its existing role and capacity, the anticipated timing and implications of any loss of existing capacity, and the availability, timing and certainty of replacement or alternative treatment capacity. Heathrow Airport Limited will continue to be engaged to obtain relevant operational waste and waste-management information, where available. Wider engagement with local authorities and other statutory and non-statutory stakeholders will be undertaken through the project-wide stakeholder engagement process.

18.3.2 Study Area

18.3.2.1 Two principal study areas are proposed for the Materials and Waste assessment, together with an extended assessment-specific study area where required for particular waste streams or materials.

18.3.2.2 The **Core Study Area** comprises the Scoping Boundary and any areas required for temporary access, site compounds, working platforms and other enabling activities, together with any additional area required to assess mineral safeguarding, mineral resources and associated infrastructure.

18.3.2.3 The **Wider Study Area** extends to London, South East England and Hertfordshire. It provides the principal geographical basis for consideration of construction

[4] Department for Transport (2026). *Proposed draft revision to the Airports National Policy Statement – to be known as the Heathrow Expansion National Policy Statement*. June 2026.

aggregate supply, waste-management capacity and remaining landfill void. The study area has been defined with reference to IEMA (now ISEP) best practice guidance[5] in respect of materials and waste in EIA and professional judgement. Due to the proximity of Hertfordshire, this has been included within the Wider Study Area in respect of its potential to supply aggregate materials and to accommodate the potential disposal or recovery of construction, demolition and excavation materials. The Isle of Wight has been excluded, despite forming part of the South East Region for planning purposes, due to the logistical constraints relating to its island geography.

18.3.2.4 Although the Wider Study Area provides the principal geographical basis for assessment of waste-management and landfill capacity, the assessment will also have regard to the geographical distribution and practical availability of capacity likely to be available to the Proposed Development. Where appropriate, local and sub-regional capacity will therefore be considered alongside the aggregated Wider Study Area baseline, to ensure that potential effects on realistically available capacity are not masked by the use of a wider regional baseline.

18.3.2.5 An **Extended Study Area** will be defined where the characteristics of a particular waste stream or material require consideration of a wider geographical market or management area. For hazardous wastes this may involve England or potentially the UK. At Scoping stage, sufficiently detailed information on the types and volumes of hazardous waste likely to require management is not available to define the appropriate geographical extent. Once this information becomes available, an appropriate study area will be defined for the purposes of the ES having regard to the relevant waste types, quantities and available management infrastructure.

18.3.2.6 For some manufactured construction materials, the appropriate geographical market may also extend beyond the Wider Study Area. For example, some materials may be sourced from national or international markets. Appropriate assessment areas will therefore be identified for significant non-aggregate construction materials once sufficient information on the types and quantities likely to be required becomes available.

18.4 Sources of Data used in Scoping

18.4.1 Baseline Sources

Requirement for Materials

18.4.1.1 At this stage, sufficiently robust quantitative information on materials requirements and construction and operational waste arisings is not available to support detailed quantitative assessment. Available preliminary information and broad order-of-

[5] Institute of Environmental Management and Assessment (2020). IEMA Guide to: Materials and Waste in Environmental Impact Assessment – Guidance for a Proportionate Approach.

magnitude estimates have therefore been used to identify relevant impact pathways and inform the scope of the assessment. Where the available information does not provide sufficient certainty to justify scoping an effect out, a precautionary approach has been adopted and the effect has been scoped in for assessment at the subsequent EIA stage.

Table 18-1: Data sources used for scoping

Source	Relevance to the assessment
Environment Agency (particularly the Remaining Landfill Capacity dataset, and Waste Data Interrogator)	Data in respect of remaining landfill capacity, and annual quantities of waste managed through other methods
Area reconnaissance walkover	General walkover surveys of publicly accessible parts of the Study Area have been undertaken to observe existing operations and context.
Minerals and Waste Planning: • Minerals and Waste Plans; • Local Plans; • Annual Monitoring Reports (AMRs); • Supplementary Planning Guidance (SPG); • Local Aggregates Assessments (LAAs); and • Other guidance / agreed position statements.	Understanding current environmental baseline with respect to aggregates minerals, waste management capacity, landfill availability and land suitable for the deposit of inert waste as a waste recovery operation. Understanding likely future development of environmental baseline with respect to aggregates minerals, waste management capacity and landfill availability.
South East Waste Planning Advisory Group (SEWPAG): Joint Position Statement: Permanent Deposit of Inert Waste on Land in the South East of England (2019)[6]	Development of mitigation
South East Waste Planning Advisory Group (SEWPAG): Joint Position Statement: Non-hazardous Landfill in the South East of England (2018)[7]	Development of mitigation

[6] South East Waste Planning Advisory Group (SEWPAG) (2019). Joint Position Statement: Permanent Deposit of Inert Waste on Land in the South East of England. Final, November 2019, Version 7.0.
[7] South East Waste Planning Advisory Group (SEWPAG) (2018). Joint Position Statement: Non-hazardous Landfill in the South East of England. Final, September 2018.

Source	Relevance to the assessment
Mineral Products Association	Understanding the current and likely future development of the environmental baseline with respect to aggregates minerals and concrete.
Environmental Services Association	Understanding the current and likely future development of the environmental baseline with respect to waste.

18.5 Baseline conditions

18.5.1 Baseline Description

Materials

Aggregate Construction Materials

18.5.1.1 Data in respect of the supply of construction aggregates has been based upon the latest published data available from the regional aggregates working parties, namely SEEAWP and LAWP.

18.5.1.2 In the south-east, SEEAWP's 2024 annual report[8] states that sales of all primary aggregates in 2024 were 13 Mt, with the sales trend, 2015–2024 remaining quite static. Land won sand and gravel sales display a declining trend, although for marine dredged aggregates (MDA) supply is steadier and is the dominant local aggregate supply. Land won aggregate reserves are being depleted and the land bank for sand and gravel stands at 8.5 years, just above the NPPF requirement of a seven year minimum. The crushed rock land bank is less than the NPPF requirement of 10 years. In contrast offshore reserves of marine dredged aggregates are significant with 22-year life, although this has declined since 2023.

18.5.1.3 Crushed rock imports in 2023 were 8.8 Mt, a two-thirds increase on 2019. This is a dominant feature of the aggregates situation in the South East. Over half of this is supplied from the South West with almost 80% of it delivered by rail. Negligible imports to the South East in 2023 were by water which may be an aberration in the presentation of data as Scotland contributed 1.6 Mt, which is likely sourced from a major coastal quarry. Moreover, SEEAWP Aggregate Monitoring (AM) 2024 data for crushed rock sales at wharves were 2.8 Mt.

18.5.1.4 Secondary aggregate sales were increasing in 2024 but they play only a small role in aggregates supply in the South East. Recycled aggregate sales in 2024 were

[8] South East England Aggregates Working Party (2026). *South East England Aggregates Working Party Annual Report 2024*. January 2026.

under 4 Mt and displayed a declining trend. No constraints on capacity have been reported but output could always be limited by the availability of feedstock.

18.5.1.5 The London Local Aggregates Assessment 2024[9] states that total primary aggregate sales in London in 2023 were 8.9 Mt. Land-won sales of sand and gravel from London quarries were 0.514 Mt, while total land-won sand and gravel supply, including material imported from outside London, was approximately 1.25 Mt. Marine-dredged sand and gravel contributed a further 3.4 Mt, and 4.25 Mt of crushed rock was imported into London.

18.5.1.6 The London Local Aggregates Assessment 2024 estimates that between approximately 2.17 Mt and 3.25 Mt of recycled aggregate was produced from construction, demolition and excavation waste managed at permitted sites in London in 2023. Including estimated secondary aggregate production, principally from incinerator bottom ash, total recycled and secondary aggregate production is estimated at approximately 2.55 Mt to 3.64 Mt. The assessment notes that these estimates do not fully capture recycled aggregate produced and reused directly on construction sites using mobile processing equipment.

18.5.1.7 The Hertfordshire Local Aggregate Assessment 2024[10], published in December 2025, records land-won sand and gravel sales of approximately 0.72 Mt in 2024 and permitted reserves of approximately 7.35 Mt at the end of that year. The resulting sand and gravel landbank was approximately 6.8 years, based on a 10-year average sales rate of 1.08 Mtpa. Hertfordshire has no indigenous crushed-rock reserves and is reliant on imports by rail and road, with approximately 0.79 Mt imported through rail aggregate depots in 2024.

Non-Aggregate Construction Materials

18.5.1.8 In addition to aggregate minerals, the Proposed Development will require a range of other construction materials, potentially including concrete, steel, asphalt, bricks, glass and timber. The types and quantities of these materials are not currently sufficiently developed to identify which are likely to represent the principal material requirements of the Proposed Development. Unlike the aggregate minerals considered above, an appropriate baseline may also vary between individual material types, reflecting differences in their supply chains and the geographical markets from which they are sourced.

18.5.1.9 ISEP guidance[11] identifies regional and / or national information on the availability, production, stocks and sales of the principal materials required by a development as potentially relevant baseline information, where such data are available. It also identifies the potential relevance of critical raw materials where these form part of the anticipated material requirements. At this stage, sufficiently robust information has not been identified to establish a meaningful wider baseline for the non-

[9] Greater London Authority (2026). London Local Aggregates Assessment 2024. 2 April 2026.
[10] Hertfordshire County Council (2025). Local Aggregate Assessment 2024. December 2025
[11] Institute of Environmental Management and Assessment (2020). IEMA Guide to: Materials and Waste in Environmental Impact Assessment – Guidance for a Proportionate Approach.

aggregate construction materials likely to be required by the Proposed Development.

18.5.1.10 As the design develops, the principal non-aggregate construction materials required in significant quantities will be identified and appropriate baseline information will be sought, where reasonably available, having regard to the relevant geographical market for each material. Where appropriate, this will include consideration of resource availability and any particular supply constraints or sustainability considerations relevant to those materials. The absence of sufficiently robust quantitative baseline information at Scoping stage has therefore not been relied upon to scope these materials out of the assessment; potential effects associated with their consumption have been scoped in on a precautionary basis and will be assessed proportionately as further information becomes available.

Aggregate Minerals Quarries, Plan Allocations, and Infrastructure

18.5.1.11 Aggregate mineral extraction (particularly sand and gravel) in the locality has been undertaken for many years and there are several former and active quarries in the wider vicinity of the Scoping Boundary. The Scoping Boundary is shown to lie within an area containing significant known mineral resources, as shown on the BGS Sand and Gravel Resources Map[12]. The Ground Conditions Chapter provides further detail on the geological and historic mineral-working context, including a consolidated plan showing BGS information and historical and permitted mineral sites. British Geological Survey data (BritPits) [13] also identifies several former quarries within or very close to the Core Study Area. The potential for remaining mineral resources within the Scoping Boundary, and the extent to which these may be affected or sterilised by the Proposed Development, will be considered through the Mineral Resource Assessment which will be prepared as a technical appendix to the ES. Four parcels of land close to the airport within the Scoping Boundary in Hillingdon are known to be designated in the Hillingdon Local Plan for mineral working (MSAs 1–4).

Waste

18.5.1.12 There is a general lag in materials, landfill and waste processing capacity data in the UK, and the latest data available from the Environment Agency relates to the situation as it stood at the end of 2025. The figures set out below are based upon this data.

18.5.1.13 For the Wider Study Area combined (including Hertfordshire, and excluding the Isle of Wight), there was a total of 52.6 Mm^3 of inert and non-hazardous capacity broken down as follows:

- Inert 27.8 Mm^3; and

[12] British Geological Survey. *BGS Mineral Resources: 1:50,000 mineral resource mapping for England*. British Geological Survey.
[13] British Geological Survey. *BritPits: mines and quarries database*. British Geological Survey.

- Non-hazardous Landfill 24.8 Mm^3 (including sites with Stable Non-Reactive Hazardous Waste (SNRHW) cells).

18.5.1.14 For context hazardous landfill capacity in 2025 within the same geographical area comprised: Hazardous Landfill (Restricted) 131,000 m^3, and Hazardous Landfill (Merchant) 59,000 m^3.

18.5.1.15 There are a significant number of historical and permitted landfill sites within the Scoping Boundary that accepted various types of waste, including biodegradable waste. There are also several areas of unknown filled ground. These are addressed in **Chapter 16: Ground Conditions**.

18.5.1.16 The Lakeside EfW facility, located near Colnbrook, is understood to process around 440,000 tpa[14], and therefore plays a key role in managing non-inert waste through a recovery process which generates heat and electricity. The plant is not anticipated to be able to remain in its current location if the Proposed Development proceeds.

Future Baseline

18.5.1.17 The future baseline in respect of materials (particularly construction aggregates) is difficult to predict with a high degree of certainty, but it can be assumed that where present and environmentally accessible, economically viable mineral resources will continue to be extracted, and need will continue to be met through the Managed Aggregates Supply System (MASS). In the case of sand and gravel, mineral planning authorities would be expected to continue to collaborate to attempt to secure minimum seven-year landbanks of sand and gravel (and ten years for crushed rock).

18.5.1.18 In order to understand the evolution of the situation with respect to landfill capacity over time, earlier data has been tracked to indicate changes over time for both London and the South East regions since 2016. These aggregated totals include Hertfordshire and exclude the Isle of Wight. The data indicates an overall declining trend in available landfill capacity over the period considered, although year-on-year changes contain notable anomalies.

Table 18-2: Landfill Capacity in the Wider Study Area (million m3)

Waste type	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Inert	55.0	38.3	38.6	38.0	35.4	28.2	28.8	26.2	22.3	27.8

[14] Lakeside Energy from Waste Ltd (2019). Replacement Energy from Waste Facility and High Temperature Incinerator, planning application P/17826/000.

Waste type	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Non hazardous	51.0	51.1	49.9	39.5	39.9	35.5	32.6	30.5	27.8	24.8

Source: Environment Agency[15].

18.5.1.19 Remaining capacity can change as existing void is consumed, sites or phases close, new or extended capacity becomes available, and reported estimates of remaining void are revised. The figures should therefore be interpreted as annual snapshots of reported capacity rather than as a continuous measure of landfill depletion.

18.5.1.20 It should be recognised that whilst landfill capacity is a finite resource at a specific point in time, new quarries often require waste (particularly inert waste) materials for restoration purposes, and engineering schemes can sometimes require the importation of large volumes of inert materials as construction fill.

18.5.1.21 Inert waste substituted for other materials required to achieve a particular purpose can under particular circumstances be regarded as waste recovery, as opposed to landfill, and waste recovery schemes might form suitable management solutions for some or all of the inert waste materials proposed to be generated.

18.5.1.22 It would be expected that waste will continue to be managed in accordance with the waste hierarchy as far as is practicable with the infrastructure which exists at the time. New waste management infrastructure would likely be developed subject to need, market forces, planning controls, and environmental constraints.

18.5.1.23 The future baseline used for assessment will be developed for the relevant construction and operational assessment periods using the best available information on existing capacity, committed capacity changes, known facility closures and openings, relevant waste-arising trends and other reasonably foreseeable changes. Where the programme extends over a period for which the future baseline cannot be predicted with certainty, appropriate assessment years or scenarios will be selected to represent the likely range of conditions, and the assumptions and uncertainties associated with those forecasts will be reported transparently.

18.5.1.24 Importantly, in the absence of the Proposed Development, it is assumed that Lakeside EfW plant would remain in its current location and continue managing the wastes it currently manages for the foreseeable future, unless evidence indicates otherwise.

[15]Environment Agency. *Remaining Landfill Capacity - National Data Library*

18.6 Likely Significant Effects Requiring Assessment

18.6.1.1 This section provides details on the consideration of likely significant effects for the construction and operational phases of the Proposed Development in respect of materials and waste.

Sensitive receptors

18.6.1.2 Materials are, in their own right, sensitive receptors. Consuming materials impacts upon their immediate and (in the case of primary materials) long-term availability; this results in the depletion of natural resources and adversely impacts the environment. Sensitive receptors include aggregate minerals used in construction.

18.6.1.3 Consumption of non-aggregate construction materials will be scoped in on a precautionary basis because sufficiently reliable information on the types and quantities required is not currently available to justify exclusion. The subsequent assessment will focus on materials used in significant quantities and/or for which supply, resource availability or sustainability considerations indicate a potential for significant effects. The level of assessment will be proportionate to the information available and the potential scale of effect.

18.6.1.4 Safeguarded minerals are a different type of sensitive receptor in respect of materials, in that they are a finite resource that although not necessarily consumed by the Proposed Development, could be sterilised by it. In the absence of mitigation measures to secure the prior extraction of minerals which would otherwise be sterilised the potential for their future consumption in respect of any future development projects is lost. This likely means future demand will need to be met from alternative sites which may be less suitable, as well as permanently reducing the supply of potential minerals in the future. Safeguarded minerals, and operational minerals sites, are therefore considered to be sensitive receptors.

18.6.1.5 Considerable volumes of waste material will be produced both during the construction and operational phases, all of which will require management. For waste, the sensitive receptor is landfill capacity. Landfill is a finite resource, because through the ongoing disposal of waste, there is a continued need to expand existing and develop new facilities. This requires the depletion of natural and other resources which, in turn, adversely impacts the environment.

18.6.1.6 It is relevant to note that Waste Planning Authorities (WPAs) are required to ensure that sufficient land is available to accommodate facilities for the treatment of all waste arising in the area, either within the Plan area, or by export to suitable facilities in other areas. IEMA (now ISEP) guidance[16] advises that the indirect impacts of off-site waste management facilities and material production facilities are generally assumed to be assessed (and where necessary mitigated) under the planning and permitting regime for those sites, and thus do not normally require

[16] Institute of Environmental Management and Assessment (2020). IEMA Guide to: Materials and Waste in Environmental Impact Assessment – Guidance for a Proportionate Approach.

assessment as part of an EIA for a development that uses such facilities for material supply or waste management.

18.6.1.7 Furthermore, waste producers have a legal duty of care to manage their waste in accordance with regulations and to ensure that any waste is appropriately managed. Facilities for managing or disposing of waste must also comply with the Environmental Permitting Regulations. Impacts arising from the operation of waste management facilities are therefore already considered as part of the planning and permitting systems.

18.6.1.8 Accordingly, the ISEP Materials and Waste EIA guidance[17] does not consider waste processing and recovery facilities as sensitive receptors; rather, they are part of a system that has the potential to reduce the magnitude of adverse impacts associated with waste generation and disposal. Infrastructure that is used to process and recover arisings (and hence divert them from landfill) is a beneficiary of waste feedstock, and has the ability to reduce adverse impacts. Such facilities are therefore an influencing factor in the reduction of the magnitude of waste impacts on landfill void capacity, rather than being a sensitive receptor in their own right. The guidance considers that waste processing and recovery facilities are, hence, different to landfills, in that the latter are finite resources.

18.6.1.9 However, understanding the environmental baseline in respect of the capacity and capability of waste processing and recovery facilities in the locality, a region, or nationally, remains an integral part of the assessment process, and has a central role in accurately defining impacts and resultant effects.

18.6.1.10 Notwithstanding the ISEP guidance[18], stakeholder comments on scoping exercises for previous proposed expansions of Heathrow and the draft HENPS indicate that, due to the likely volumes of waste generated, consideration of the availability and capability of existing recycling and recovery infrastructure will be relevant to the assessment and development of the waste-management strategy. This information will be used to inform assumptions regarding the proportion of waste arising from the Proposed Development likely to require disposal and the practical availability of appropriate management routes. Wider arrangements for managing waste arising from the Proposed Development will be addressed through the Resource Management Plan and associated documents. Heathrow Airport has a Resource and Waste Strategy which will be considered as relevant contextual information where applicable to the Proposed Development.

18.6.1.11 The Lakeside EfW facility, located near Colnbrook, is understood to have capacity to manage 440,000 tpa, and therefore plays a key role in managing non-inert waste through a recovery process which generates heat and electricity. The plant would not be able to remain in its current location as a result of the Proposed Development and would need to be relocated, or the capacity met from alternative

[17] Institute of Environmental Management and Assessment (2020). IEMA Guide to: Materials and Waste in Environmental Impact Assessment – Guidance for a Proportionate Approach.
[18] Institute of Environmental Management and Assessment (2020). IEMA Guide to: Materials and Waste in Environmental Impact Assessment – Guidance for a Proportionate Approach.

new facilities. The location, timing and certainty of replacement capacity are currently uncertain and will be considered through the ES as the design and mitigation strategy develops.

18.6.1.12 Although waste-treatment and recovery facilities are not ordinarily treated as sensitive environmental receptors under the ISEP Materials and Waste EIA methodology[19], Lakeside EfW represents an exceptional project-specific impact pathway because the Proposed Development would directly result in the loss, relocation or interruption of identified existing waste-treatment capacity. The assessment will therefore consider the treatment and recovery capacity currently provided by Lakeside EfW, rather than the facility as an environmental receptor in the conventional sense.

18.6.1.13 If the capacity currently provided by the Lakeside EfW facility is lost, reduced or interrupted as a result of the Proposed Development, local waste-treatment capacity could be reduced and additional pressure placed on other waste-management infrastructure. The assessment will consider the scale and duration of any capacity loss, the waste streams and catchment served, the availability, timing and certainty of replacement or alternative capacity, any residual shortfall and the effectiveness and certainty of mitigation. These matters will be assessed using the bespoke qualitative methodology set out in Section 18.9.

Significant Effects

18.6.1.14 This section covers the significant effects identified, broken down by project phase and receptor type.

18.6.2 Construction

18.6.2.1 The likely significant effects that will be assessed within the EIA and reported in the ES Chapter for the construction phase are set out below.

Materials – Minerals

18.6.2.2 The Proposed Development will affect mineral resources and potentially reserves, both directly (in respect of sterilisation) and in respect of demand for aggregates in the wider area and potentially South East and London regions.

18.6.2.3 Economically viable mineral deposits could be permanently lost if development takes place on land containing these resources prior to their extraction, resulting in their permanent sterilisation.

18.6.2.4 Existing or future mineral extraction operations could be disrupted, especially if transport access is restricted.

[19] Institute of Environmental Management and Assessment (2020). *IEMA Guide to: Materials and Waste in Environmental Impact Assessment – Guidance for a Proportionate Approach*.

18.6.2.5 Nearby mineral sites may face increased demand, potentially accelerating extraction rates, or prompting new planning applications. Regional aggregates supply chains could be affected, leading to increased demand particularly from closer mineral sites. This may in turn put pressure on the ability of mineral planning authorities locally and in the wider region to maintain an adequate landbank as required.

Materials – Construction Materials

18.6.2.6 The Proposed Development may affect the availability of construction materials, however at this stage it is not possible to determine the significance of the effect, due to data gaps on the requirement for these materials and the effect has therefore been scoped in on a precautionary basis. Consumption of construction materials may affect their availability in respect of other proposed developments, placing stress on supply chains.

Waste

18.6.2.7 The key waste types generated during construction are likely to include excavation waste, demolition waste and construction waste (including waste soils, concrete and bricks, asphalt, metals, glass, timber, plastic and packaging). Potentially significant quantities of hazardous excavation waste may also be generated, most likely in the remediation of existing areas of former landfill and contaminated land, and the management of any material found to be contaminated with per- and polyfluoroalkyl substances (PFAS).

18.6.2.8 Waste generated and sent to landfill during construction will be an ongoing management issue, and could continue to have impacts into and beyond the early operational phase for the runway. The principal adverse effects of sending waste to landfill include the permanent loss of materials from potential use higher up the waste hierarchy, and a reduction in local and regional landfill capacity. There may also be opportunities for project earthworks to facilitate improved management or remediation of existing filled land. Any associated effects on ground conditions, groundwater and surface water would be assessed within the relevant specialist chapters.

18.6.2.9 The displacement of Lakeside EfW facility and the resulting potential loss, interruption or reduction in existing waste-treatment capacity will be assessed as a likely significant effect.

18.6.3 Operation

18.6.3.1 The likely significant effects that will be assessed within the EIA and reported in the ES Chapter for the operational phase are set out below.

18.6.3.2 Once operational the development will result in a requirement to manage wastes generated through the working of the terminal building and associated infrastructure, including any proposed commercial floorspace.

18.6.3.3 Operational waste would be managed in accordance with the waste hierarchy and applicable statutory waste-management requirements and targets. Sufficiently robust information is not currently available on future operational waste arisings, composition and management arrangements to demonstrate that effects on landfill capacity would necessarily be negligible. Operational waste effects are therefore scoped in on a precautionary basis. The subsequent assessment will consider predicted waste arisings, application of the waste hierarchy, available recovery and treatment infrastructure and the quantity of residual waste requiring disposal. Relevant airport-wide waste-management objectives and strategies will be taken into account as appropriate where they are applicable to the Proposed Development.

18.6.4 Decommissioning

18.6.4.1 The Proposed Development is intended to be permanent and no reasonably foreseeable decommissioning phase forms part of it. Decommissioning effects are therefore scoped out of the Materials and Waste assessment. Maintenance, refurbishment and replacement activities reasonably expected during operation will be considered within the operational assessment where they could give rise to material consumption or waste arisings.

Table 18-3: Likely significant materials and waste effects

Activity	Effect	Receptor
Construction		
Construction	Consumption of construction aggregates and other construction materials, potentially reducing their availability for other development	Availability of construction materials, particularly aggregate mineral resources within the relevant local, regional, national and/or global market
Construction	Sterilisation of, or loss of access to, safeguarded mineral resources as a result of permanent or temporary development	Safeguarded mineral resources within the Core Study Area
Construction	Loss of, or interference with, existing or allocated mineral extraction sites and associated safeguarded mineral infrastructure	Existing and allocated mineral sites and safeguarded mineral infrastructure

Activity	Effect	Receptor
Construction	Disposal of construction, demolition and excavation waste resulting in the loss of available landfill void capacity	Landfill void capacity, with the availability and capability of appropriate recovery/treatment infrastructure considered as part of the assessment baseline and waste-management strategy
Construction	Displacement of Lakeside EfW plant resulting in the loss, temporary loss or reduction of existing residual-waste treatment/recovery capacity	Waste-treatment and recovery capacity currently provided by Lakeside EfW
Construction - cumulative	Combined demand for construction aggregates from the Proposed Development and other developments occurring with overlapping construction periods, potentially increasing pressure on aggregate supply	Regional aggregate mineral supply, reserves and landbanks
Construction - cumulative	Combined waste arisings requiring landfill disposal from the Proposed Development and other developments occurring with overlapping construction periods, resulting in accelerated consumption of available landfill capacity	Landfill void capacity, with the availability and capability of appropriate recovery/treatment infrastructure considered as part of the assessment baseline and waste-management strategy
Operation		
Operation	Generation of operational waste, including international catering waste and other difficult-to-manage wastes such as confiscated liquids and liquid wastes generated during aircraft maintenance, creating demand for suitable waste-management infrastructure and potentially increasing the quantity of waste requiring disposal	Landfill void capacity, with the availability and capability of appropriate recovery/treatment infrastructure considered as part of the assessment baseline and waste-management strategy

Activity	Effect	Receptor
Operation - Cumulative	Combined operational waste arisings from the Proposed Development and other development, potentially increasing pressure on available waste-management and disposal capacity	Landfill void capacity, with the availability and capability of appropriate recovery/treatment infrastructure considered as part of the assessment baseline and waste-management strategy

18.7 Effects Not Requiring Assessment

18.7.1.1 Scoping out effects from materials and / or waste from environmental assessment based on primary measures alone would require evidence to demonstrate that there is clarity and certainty about the nature of mitigation (if required) and the method by which that mitigation would be secured.

18.7.1.2 The Proposed Development is intended to be permanent and no reasonably foreseeable decommissioning or end-of-life phase forms part of it. Consistent with a proportionate lifecycle approach, quantitative end-of-life materials and waste effects are therefore proposed to be scoped out of the Materials and Waste assessment. Maintenance, refurbishment and replacement activities reasonably expected during operation will be considered within the operational assessment where relevant.

18.7.1.3 Where materials are consumed, and waste is generated, then depending on how they are managed, indirect adverse effects may arise (for example, from haulage, noise, dust, general amenity and wellbeing, vehicle emissions and water pollution). Such effects are assessed by other EIA disciplines.

18.7.1.4 Best practice guidance[20] advises that where effective primary and/or tertiary measures are required but are not in place; where such measures comprise novel approaches or those without clear provenance; where there is insufficient evidence that the potential for significant adverse environmental effects will be precluded; and/or where professional judgement indicates a reasonable potential for significant Materials and Waste effects, these effects should be scoped in to an EIA.

18.7.1.5 At the current stage of design development, sufficiently robust quantitative information is not available to reliably determine accurate material requirements and waste arisings generated by the Proposed Development, and professional judgement has been used to determine the likely broad order of magnitude, for context. Accordingly, where data gaps exist, a precautionary approach has

[20] Institute of Environmental Management and Assessment (2020). IEMA Guide to: Materials and Waste in Environmental Impact Assessment – Guidance for a Proportionate Approach.

currently been adopted and potential effects have been scoped in for assessment, unless quantitative data is available and referred to which justifies it being scoped out. The assessment reported in the ES will be informed by the developing design and based upon quantitative information as it becomes available.

18.7.1.6 Due to current data gaps, some of which are likely to be filled during preparation of later stage scoping material, some effects currently scoped in may subsequently prove not to be significant once more robust information becomes available. Where uncertainty remains at the relevant assessment stage, the assessment will use reasonable assumptions and/or reasonable worst-case assumptions, as appropriate. The table below sets out the potential effects where there is considered to be sufficient certainty, based on currently available information, to scope these issues out at this stage.

Table 18-4: Potential effects to be scoped out of the Materials and Waste assessment

Activity	Effect	Receptor	Justification for scoping out
Construction	Waste arising from the extraction, processing and manufacture of construction materials before their delivery to the Proposed Development	Landfill void capacity and other waste-management infrastructure associated with material-production facilities	These effects arise at third-party quarries, manufacturing plants and other material-production facilities. Such facilities are subject to their own planning, environmental assessment and/or environmental permitting controls. The Materials and Waste assessment will instead assess the effects associated with the quantities of materials consumed by the Proposed Development.

Activity	Effect	Receptor	Justification for scoping out
Construction and operation	Environmental effects arising from the construction and operation of any replacement facility or facilities required to replace Lakeside EfW plant.	Environmental receptors affected by the construction and operation of the replacement facility	Any replacement facility is expected to be subject to its own consenting process and, where applicable, EIA and environmental permitting. The HWL assessment will assess the loss of existing Lakeside treatment capacity and the adequacy and certainty of replacement capacity, but will not duplicate the assessment of the environmental effects arising from the construction and operation of a separate replacement facility.
Construction and operation	Indirect environmental effects associated with the transport, handling, temporary storage, treatment or disposal of project waste, including effects on traffic, air quality, noise, ground conditions, water environment and greenhouse-gas emissions	Receptors identified within the relevant Traffic and Transport, Air Quality and Odour, Noise and Vibration, Ground Conditions, Water Environment and Greenhouse Gases assessment chapters	These effects will be assessed within the relevant specialist EIA topic chapters. The Materials and Waste assessment will assess material consumption, waste generation, landfill capacity effects and relevant waste-management capacity issues, avoiding duplication between EIA topics.

Activity	Effect	Receptor	Justification for scoping out
Operation	Waste generated by independent off-site businesses, development or wider activity outside the operational control of HWL	Waste-management and landfill capacity	Waste generated by independent off-site businesses or development will not be assessed as Project-generated operational waste unless a sufficiently direct causal relationship with the Proposed Development can be established and the resulting waste can be reasonably quantified. Relevant committed or reasonably foreseeable development will instead be considered, where appropriate, through the cumulative assessment and future baseline.

Activity	Effect	Receptor	Justification for scoping out
Construction and operation	Quantitative materials and waste effects associated with the full lifecycle/end-of-life of the Proposed Development.	Material resources and waste-management capacity	The Proposed Development is intended to be permanent and no reasonably foreseeable decommissioning or end-of-life phase forms part of it. Consistent with a proportionate lifecycle approach, quantitative end-of-life material and waste effects are therefore scoped out of the Materials and Waste assessment. Maintenance, refurbishment and replacement activities reasonably expected during operation will be considered within the operational assessment where relevant. Wider lifecycle resource-efficiency principles will be addressed through the Circular Economy Statement and Resource Management Plan.

Activity	Effect	Receptor	Justification for scoping out
Decommissioning	Consumption of materials and generation of waste associated with eventual decommissioning of the Proposed Development	Construction-material resources and waste-management/landfill capacity	The Proposed Development is intended to be permanent and no reasonably foreseeable decommissioning phase forms part of it. Maintenance, refurbishment and replacement activities reasonably expected during operation will be considered within the operational assessment where relevant.

18.8 Proposed Approach to Assessment

18.8.1.1 Assessment of materials and waste impacts has not historically followed a standard approach in identifying receptors and determining their sensitivity that is typically used for other EIA topics. However, IEMA (now ISEP) Materials and Waste in Environmental Impact Assessment guidance published in 2020[21] was intended to assist EIA practitioners in following this approach.

18.8.1.2 The methodology for materials and waste has been developed using this best practice guidance as a starting point, and amended appropriately to suit the particular requirements of this Proposed Development based on professional judgement and examples sourced from similar projects.

18.8.1.3 The EIA will assess effects on landfill void capacity, safeguarded mineral resources and infrastructure, material availability, and the treatment or recovery capacity displaced through the loss of Lakeside EfW. Wider arrangements for managing waste arising from the Proposed Development will inform that assessment and will be documented through the Resource Management Plan and associated control documents.

[21] Institute of Environmental Management and Assessment (2020). IEMA Guide to: Materials and Waste in Environmental Impact Assessment – Guidance for a Proportionate Approach.

Magnitude of Impact and Significance

Materials (including Minerals) Supply

18.8.1.4 The sensitivity and magnitude criteria for materials will be based upon ISEP best practice guidance[22] previously referred to, and are as follows:

Table 18-5: Sensitivity Criteria – Materials (including aggregates minerals)

Sensitivity	Description
Very High	Are known to be insufficient in terms of production, supply and/or stock; and/or Comprise no sustainable features and benefits compared to industry-standard materials.
High	Are forecast (through trend analysis and other information) to suffer from known issues regarding supply and stock; and/or Comprise little or no sustainable features and benefits compared to industry-standard materials.
Medium	Are forecast (through trend analysis and other information) to suffer from some potential issues regarding supply and stock; and/or Are available comprising some sustainable features and benefits compared to industry-standard materials.
Low	Are forecast (through trend analysis and other information) to be generally free from known issues regarding supply and stock; and/or Are available comprising a high proportion of sustainable features and benefits compared to industry-standard materials.
Negligible	Are forecast (through trend analysis and other information) to be free from known issues regarding supply and stock; and/or Are available comprising a very high proportion of sustainable features and benefits compared to industry-standard materials.*

[22] Institute of Environmental Management and Assessment (2020). IEMA Guide to: Materials and Waste in Environmental Impact Assessment – Guidance for a Proportionate Approach.

Table 18-6: Magnitude Criteria – Materials (including aggregates minerals)

Magnitude	Description
Major	One or more materials is >10% by volume of the regional baseline availability; and/or more than one allocated mineral site is substantially sterilised by the development rendering it inaccessible for future use.
Moderate	One or more materials is between 6-10% by volume of the regional baseline availability; and/or one allocated mineral site is substantially sterilised by the development rendering it inaccessible for future use.
Minor	One or more materials is between 1-5% by volume of the regional baseline availability; and/or the development has the potential to adversely and substantially impact access to one or more allocated mineral site (in their entirety), placing their future use at risk.
Negligible	No individual material type is equal to or greater than 1% by volume of the regional baseline availability
No change	No material is required

18.8.1.5 Although ISEP combines criteria for materials and mineral resources in a single methodology[23], it should be noted that material consumption and effects on allocated / safeguarded mineral resources will be reported as distinct impact pathways. The approach for non-aggregate materials will use a degree of professional judgement. Whilst regional baseline availability will be used by default for non-aggregate construction materials where both appropriate and sufficiently reliable data exists to support this, in some cases reference to national or global availability may be more appropriate for a particular material type (for example, steel). In cases where the overarching methodology is varied the approach will be justified on a case-by-case basis.

18.8.1.6 With respect to minerals sterilisation generally, (i.e. excluding allocated quarries), the impacts will be assessed using professional judgement, and combined with the impacts from the allocated sites in determining magnitude. The approach taken will be

[23] Institute of Environmental Management and Assessment (2020). IEMA Guide to: Materials and Waste in Environmental Impact Assessment – Guidance for a Proportionate Approach.

explained and justified, including making reference to the Mineral Resource Assessment. Effects on existing operational mineral sites and safeguarded mineral infrastructure will also be assessed using professional judgement, having regard to the nature, extent and duration of any interference with their operation or future use.

Waste

18.8.1.7 The methodology for waste has been developed using IEMA (now ISEP) best practice guidance[24] as a starting point, and amended appropriately to suit the particular requirements of the Proposed Development based on professional judgement and examples sourced from similar projects.

18.8.1.8 The sensitivity of waste as a receptor relates to availability of regional, or where appropriate (for example potentially in respect of hazardous waste) national landfill void capacity, in the absence of the Proposed Development. Landfill capacity is recognised as an unsustainable and increasingly scarce option for managing waste.

18.8.1.9 The sensitivity of landfill void capacity will be assessed by applying a two-step process, which will be completed in the absence of the Proposed Development (a "do nothing" scenario).

18.8.1.10 **Step 1 -** the volume of waste for disposal that is expected to be generated within the relevant Wider Study Area or Extended Study Area, as appropriate, will be calculated by analysing available data (particularly the Environment Agency Waste Data Interrogator and Local Plan Annual Monitoring Reports), and by providing justified forecasts over the construction and/or operational phase of the Proposed Development;

18.8.1.11 **Step 2 -** the anticipated volume of waste forecast for disposal within the Wider Study Area or Extended Study Area, as appropriate, is then compared with its remaining landfill void capacity, to identify the expected impacts over the construction and/or operational phase of the Proposed Development.

18.8.1.12 For the purposes of the assessment, receptor sensitivity will be determined by the forecast condition and scarcity of available landfill capacity in the future baseline, excluding the Proposed Development. The magnitude of impact will be determined separately by the proportion of that future-baseline capacity predicted to be consumed by waste arising from the Proposed Development. This distinction avoids double counting the effect of waste arising from the Proposed Development within both receptor sensitivity and impact magnitude.

18.8.1.13 Given the likely timescales within which the Proposed Development will be constructed and operated, forward forecasting of new landfill void will be an important consideration. This is because existing landfills are likely to close and new ones open during this timescale, so a key factor will be the rate at which total

[24] Institute of Environmental Management and Assessment (2020). IEMA Guide to: Materials and Waste in Environmental Impact Assessment – Guidance for a Proportionate Approach.

landfill void within the Wider Study Area or Extended Study Area, as applicable, is changing, in addition to the availability of landfill void at a specific point in time.

18.8.1.14 The sensitivity criteria are based on best practice guidance[25] and are set out in **Table 18-7**.

Table 18-7: Sensitivity Criteria – Landfill

Sensitivity category	Description
Very High	Inert and non-hazardous landfill void capacity is expected to reduce very considerably (by greater than 10%); end during construction or operation; is already known to be unavailable; or would require new capacity or infrastructure to be put in place to meet forecast demand. Hazardous landfill void capacity is expected to reduce very considerably (by greater than 1%); end during construction or operation; is already known to be unavailable; or would require new capacity or infrastructure to be put in place to meet forecast demand.
High	Inert and non-hazardous landfill void capacity is expected to reduce considerably: by 6%–10% as a result of wastes forecast. Hazardous landfill void capacity is expected to reduce considerably by: 0.5%–1% as a result of wastes forecast.
Medium	Inert and non-hazardous landfill void capacity is expected to reduce noticeably: by 1%–5% as a result of wastes forecast. Hazardous landfill void capacity is expected to reduce noticeably: by 0.1%–0.5% as a result of wastes forecast.
Low	Inert and non-hazardous landfill void capacity is expected to reduce minimally: by less than 1% as a result of wastes forecast. Hazardous landfill void capacity is expected to reduce minimally: by less than 0.1% as a result of wastes forecast.
Negligible	The baseline/future baseline of regional (or where justified, national) inert, non-hazardous, and hazardous landfill void capacities are expected to remain unchanged or are expected to increase through a committed change in capacity.

[25] Institute of Environmental Management and Assessment (2020). IEMA Guide to: Materials and Waste in Environmental Impact Assessment – Guidance for a Proportionate Approach.

18.8.1.15 The magnitude criteria are based on best practice guidance[26] and are set out in **Table 18-8**.

Table 18-8: Magnitude Criteria – Landfill

Magnitude	Description
Major	Inert and non-hazardous waste generated by the development will reduce regional landfill void capacity baseline by >10%. Hazardous waste generated by the development will reduce national landfill void capacity baseline by >1%
Moderate	Inert and non-hazardous waste generated by the development will reduce regional landfill void capacity baseline by 6-10%. Hazardous waste generated by the development will reduce national landfill void capacity baseline by 0.5%-1%
Minor	Inert and non-hazardous waste generated by the development will reduce regional landfill void capacity baseline by 1-5%. Hazardous waste generated by the development will reduce national landfill void capacity baseline by 0.1%-0.5%
Negligible	Inert and non-hazardous waste generated by the development will reduce regional landfill void capacity baseline by <1%. Hazardous waste generated by the development will reduce national landfill void capacity baseline by <0.1%
No change	Zero waste generation and disposal from the development.

Environmental Effects

18.8.1.16 The environmental effects criteria are based on best practice guidance[27] and are set out in **Table 18-9**.

[26] Institute of Environmental Management and Assessment (2020). IEMA Guide to: Materials and Waste in Environmental Impact Assessment – Guidance for a Proportionate Approach.
[27] Institute of Environmental Management and Assessment (2020). IEMA Guide to: Materials and Waste in Environmental Impact Assessment – Guidance for a Proportionate Approach.

Table 18-9: Environmental Effects

	Magnitude of impact					
Sensitivity (or value) of receptor		No change	Negligible	Minor	Moderate	Major
	Very High	Neutral	Slight	Moderate or large	Large or very large	Very large
	High	Neutral	Slight	Slight or Moderate	Moderate or large	Large or very large
	Medium	Neutral	Neutral or slight	Slight	Moderate	Moderate or large
	Low	Neutral	Neutral or slight	Neutral or slight	Slight	Slight or Moderate
	Negligible	Neutral	Neutral	Neutral or slight	Neutral or slight	Slight

18.8.1.17 Classifications of Moderate or higher are considered to be significant in the context of environmental effects from materials and waste.

18.8.1.18 Ordinary off-site recovery / recycling capacity is baseline / context used to determine whether wastes arising from the Proposed Development can be appropriately managed and whether landfill assumptions are realistic. However, Lakeside EfW plant is exceptional because the Proposed Development directly causes the loss of an existing facility / capacity.

18.8.1.19 In respect of the effects relating to the potential loss of existing waste management capacity at Lakeside EfW plant, a quantitative assessment using sensitivity criteria and impact magnitudes is not considered appropriate because it is a single and nuanced issue, which requires a bespoke approach. It is considered that the impact assessment will be better and more fully addressed through a qualitative text description (referencing relevant data and volumes where possible and appropriate).

18.8.1.20 The assessment of impacts from the loss / relocation of waste management capacity provided Lakeside EfW plant would include reference to appropriate baseline information in respect of recovery capacity, and other available recovery and recycling infrastructure within an appropriate geographical catchment. The availability and timing of potential replacement capacity will be assessed, along with timings and methodology for the relocation of the facility, if proposed.

18.8.1.21 The qualitative assessment will consider the scale and duration of lost capacity, waste streams / catchment served, certainty and timing of replacement or alternative capacity, any residual shortfall, and the effectiveness / certainty of mitigation, with an overall professional judgement as to whether the residual effect is significant.

18.8.1.22 Through previous scoping exercises on historic proposals for the expansion of Heathrow, the threshold criteria (significant waste movement threshold from one authority into another) adopted by waste planning authorities within the South East have been identified as a consideration.

18.8.1.23 Due to the nature of the Proposed Development, whilst relevant to the effective planning of waste, it is considered these threshold criteria do not need to be directly applied through this EIA process. The DCO spans several planning authorities in any case, and due to the projected volumes, wastes will be managed more widely within the surrounding regions. The Wider Study Area, or Extended Study Area where appropriate, will provide the geographical basis for assessing the relevant waste-management and landfill-capacity effects. Movement of wastes between waste planning authority boundaries will not therefore be treated as an environmental impact in its own right, but will be considered as part of the assessment of effects across the relevant study area. In following this approach, it should be noted that all environmental effects that would have been considered by applying the above criteria would still be assessed; it would be the method of presentation which would differ.

Overarching Issues

18.8.1.24 Consideration of relevant minerals and waste local plan policies, and wider relevant planning and environmental policy, legislation and guidance, as they relate to materials and waste-related issues. This will include the review of published data including baseline and projected waste data and procedures for Heathrow Airport, and design information for the Proposed Development. A search of landfill facilities and their remaining capacity will be undertaken to understand the existing and projected future landfill infrastructure should waste be exported from the site for disposal.

18.8.1.25 A comprehensive assessment of waste arisings will be undertaken, for both construction and operational waste, and arrangements that are proposed for managing all waste produced in the application for development consent will be set out. The arrangements described will include information on the proposed waste recovery and disposal system for all waste generated by the development. Disposal will be considered only after application of the waste hierarchy and where reuse, recycling or other recovery is not reasonably practicable, having regard to the nature of the waste and the available management infrastructure.

18.8.1.26 Opportunities for material efficiency, waste prevention and circularity will be considered to ensure they align with the Government's circular economy ambitions. The assessment will specifically consider the impact of the Proposed

Development on the airport's ability to deal with international catering waste, which is classed as a high-risk, Category 1 animal by-product[28].

18.8.1.27 Effective processes will be defined and followed to ensure effective management of hazardous and non-hazardous waste arising during the construction and operational phases of the development, with wider lifecycle resource and waste management principles addressed through the Circular Economy Statement and Resource Management Plan. The assessment, methodology and mitigation will provide assurance that:

- Waste produced will be properly managed, both onsite and offsite;
- The waste from the proposed development can be dealt with appropriately by the waste infrastructure which is, or is likely to be, available. Such waste arising should not have unacceptable adverse effects on the capacity of existing waste management facilities to deal with other waste arising in the area; and
- Adequate steps will be taken to ensure that waste arisings from the site are subject to the principles of the waste hierarchy, dealt with at the highest possible level within the hierarchy, and consideration given to the circular economy.

18.8.1.28 A Circular Economy Statement (CES) will be prepared and included as an appendix to the ES Chapter, setting out how appropriate circular-economy principles will be applied to the Proposed Development. The CES will identify measures and opportunities to reduce material consumption, prevent waste generation and maximise reuse, recycling and recovery during construction and operation. The later scoping stages will include the production of a draft of the strategy including as much detail as appropriate, based upon the information available at the time of writing.

18.8.1.29 A Resource Management Plan (RMP) will be prepared and included as an appendix to the ES Chapter, setting out how appropriate measures for sustainable resource and waste management will be secured to manage the wastes remaining after application of the waste hierarchy. The RMP will demonstrate how the Proposed Development will apply the waste hierarchy, relevant statutory requirements and targets, and appropriate circular-economy and resource-efficiency principles. Relevant airport-wide waste-management objectives and strategies will be taken into account where applicable to the Proposed Development. The later stages of the EIA will include the production of a draft of the strategy including as much detail as appropriate, based upon the information available at the time of writing.

[28] Animal and Plant Health Agency and Department for Environment, Food & Rural Affairs (2025). Handling and disposing of international catering waste. Updated 18 September 2025.

Construction Specific Issues

18.8.1.30 A Mineral Resource Assessment (MRA) will be prepared for the Core Study Area which identifies land containing potentially economically viable mineral reserves which would be sterilised by the development and operational mineral sites that may be affected. The Assessment will set out measures to remove or minimise these impacts as far as reasonably practicable. The MRA will be included as a technical appendix to the ES.

18.8.1.31 A construction phase waste capacity assessment will assess the impact of construction, demolition and excavation waste requiring off-site disposal on landfill capacity, where likely significant effects could occur. The ES will explain how estimates have been derived. Where re-use or recovery of construction, demolition and excavation waste is not possible, the waste hierarchy will be applied with the final option being to divert this to landfill. The assessment will be included within reports produced for the technical appendix to the ES.

18.8.1.32 Outline Site Waste Management Plans for each construction site or phase will be prepared as appropriate, detailing how waste will be segregated, reused, and recycled and included as a technical appendix to the ES. The later scoping stages will include the production of a draft of the plans including as much detail as appropriate, based upon the information available at the time of writing. If relevant, appropriate supporting documents produced by technical specialists as part of other ES Chapters, including the Preliminary Materials Management Strategy Report and, where applicable, subsequent Materials Management Plans or Strategies and the Code of Construction Practice, will be referenced appropriately.

18.8.1.33 The effects of removing the Lakeside Energy from Waste plant upon capacity for treatment of waste will be assessed, using a bespoke methodology outlined earlier.

Operational Phase

18.8.1.34 The composition and quantities of waste currently collected would be reviewed together with the existing waste-management facilities, procedures and targets. On this basis, predicted arisings and composition of waste on completion of the Proposed Development would be identified. Should data in respect of operational waste from Heathrow Airport not be available from HAL, broad estimates will be made in respect of arisings per passenger, using appropriate data which is available, and experience with other similar airport projects. An Outline Operational Waste Management Strategy (oOWMS) will be provided as a technical appendix to the ES and will set out how these facilities would be used, and procedures would be established to maximise the quantity of waste diverted from landfill taking into account the existing waste management practices.

18.8.2 Additional Baseline Information Required

18.8.2.1 The information identified below is not considered necessary to define the scope of the Materials and Waste assessment, but will be required, where available, to inform the subsequent quantitative assessment. Where information remains unavailable at the relevant assessment stage, reasonable assumptions and / or reasonable worst-case assumptions will be applied based on professional judgement.

18.8.2.2 Information on approximate quantities of construction aggregates required to construct the proposed runway, terminal and associated infrastructure will be sought, preferably broken down as soft / building sand, sand / gravel and crushed rock.

18.8.2.3 Information on approximate quantities of cement, steel, bricks and other materials of significant volumes to construct the proposed runway, terminal and associated infrastructure will be sought.

18.8.2.4 Information on any materials that will comprise entirely (or incorporate) secondary or recycled content will be sought. Opportunities will be sought to maximise the amount of recycled and secondary aggregates used, where appropriate, and this will form part of the primary mitigation measures for the Proposed Development.

18.8.2.5 Information on any known sustainability credentials of materials to be consumed (for example, through the use of Ecolabels or Environmental Product Declarations (EPD)) including the expected benefit, will be sought.

18.8.2.6 The region(s) from which aggregate minerals are likely to be sourced, and where possible the likely source regions for other materials, will be further investigated.

18.8.2.7 The potential role of borrow pits, including the approximate volumes of minerals that could be recovered and used in construction, will be further investigated. Where appropriate, opportunities will be sought to source aggregates from local borrow pits, if technically, environmentally and economically practicable. This will form part of the primary mitigation measures for the Proposed Development.

Requirement for Waste Management

18.8.2.8 Highly indicative estimates in respect of cut / fill, including the types and volumes of construction, demolition and excavation waste have been sourced from the project engineers. Preliminary project information indicates that substantial volumes of excavated material are likely to arise during construction. Estimates remain subject to significant design uncertainty and are not currently sufficiently robust to support quantitative assessment. Construction waste arisings and associated effects have therefore been scoped in, and updated earthworks quantities and material classifications will be used for the subsequent assessment as the design develops.

18.8.2.9 The type and volume of materials that will be recovered from off-site sources (e.g. donor sites) for use on the development will be sought.

18.8.2.10 Details of on-site storage and stockpiling arrangements for excavated and other arisings, construction laydown areas and any supporting logistical information will be sought.

18.8.2.11 Details of any physical, chemical or other processing requirements that should be deployed to ensure waste is managed to retain utility and value will be sought.

18.8.2.12 Data in respect of operational waste from Heathrow Airport is not currently available from HAL, however, broad estimates can be made in respect of arisings per passenger, using data which is available and experience with other similar airport projects. HWL will continue to liaise with HAL to seek to obtain this data.

18.8.2.13 Information on approximate commercial floorspace incorporated within the development will be sought.

18.8.2.14 Where reliable information on the proportion of waste to be reused, recycled or otherwise recovered is unavailable at the relevant assessment stage, reasonable assumptions will be made using professional judgement, having regard to the anticipated composition of the waste stream and appropriate regional or national evidence. Where sufficiently robust assumptions cannot be made, a reasonable worst-case assumption that the material is disposed of to landfill will be applied. The type and quantity of waste expected to require disposal to landfill will be identified or estimated for the subsequent assessment.

18.8.3 Cumulative Effects

18.8.3.1 Cumulative effects on aggregate minerals supply could occur when other large construction projects occur simultaneously, placing unusual pressure on permitted reserves in the locality and potentially wider region.

18.8.3.2 Cumulative effects on waste management receptors could occur where one or more large construction projects are simultaneously consigning large volumes of waste to landfill, resulting in a reduction in the available void at those sites.

18.8.3.3 The cumulative long list will be used to identify developments relevant to the Materials and Waste assessment. Relevant schemes will be screened having regard to the potential for overlap in construction and / or operational periods and, where appropriate, the geographical markets and catchments within which aggregate materials are supplied and waste is managed. Where sufficient information is available, the potential combined demand for aggregate minerals and combined waste arisings requiring disposal will be quantified.

18.8.3.4 Where sufficiently robust quantitative information is not available, cumulative effects will be considered qualitatively using the information available and professional judgement. Wider planned growth will be taken into account, where

appropriate, through development of the future baseline. In particular, relevant planned housing growth will be considered as part of the future baseline, including its implications for demand for minerals and waste-management capacity.

18.8.3.5 The project-wide cumulative assessment methodology and cumulative long list will be set out in the Cumulative Effects ES chapter. The project-wide cumulative long list will provide the initial basis for identifying other developments for consideration. However, because aggregate supply and waste-management markets extend beyond the project-wide 5 km screening area, the Materials and Waste assessment will additionally consider developments outside that area where their scale, construction programme, material requirements or waste arisings could interact with the Proposed Development within a shared supply market or waste-management catchment.

18.8.4 In-Combination Effects

18.8.4.1 This section provides a description of the potential in-combination effects for materials and waste. In-combination effects may arise where effects from different EIA topics interact and combine to affect a common receptor.

18.8.4.2 In-combination effects may arise where effects associated with materials and waste interact with effects assessed within other EIA topics and combine to affect a common receptor. Relevant interfaces are expected to include, in particular, Traffic and Transport, Ground Conditions, Greenhouse Gases, Climate Change, Air Quality and Odour, Noise and Vibration, Water Environment and Agricultural Land and Soils.

18.8.4.3 The Materials and Waste assessment will provide relevant information on matters such as material requirements and sourcing, earthworks and material reuse, waste arisings and anticipated waste-management requirements to inform the assessments undertaken within those topics. The associated physical environmental effects will be assessed within the relevant specialist chapters, while the Materials and Waste chapter will assess effects on material resources, mineral resources and infrastructure, landfill capacity and Lakeside EfW capacity, thereby avoiding duplication between topics.

18.8.4.4 Potential in-combination effects will be considered in accordance with the project-wide EIA methodology as the assessment develops. Where materials and waste activities give rise to downstream effects considered within other EIA topics, any potential for those effects to combine on a common receptor will therefore be considered through the project-wide in-combination assessment.

18.8.5 Limitations and Assumptions

18.8.5.1 The assessment will necessarily be undertaken against a developing design of the Proposed Development. Key uncertainties include construction material requirements; earthworks and cut / fill quantities; the classification and destination of excavated material; material sourcing; the timing of future waste-management

facility closures and openings; the timing and form of replacement capacity for Lakeside EfW; operational passenger and waste-arising assumptions; and the extent to which excavated materials can be reused, which will depend upon their quality, suitability and regulatory waste status. These limitations will be addressed through the use of the best information available at each assessment stage, transparent assumptions based on professional judgement and, where appropriate, precautionary assessment scenarios. Assumptions will be reviewed and refined as the design develops.

18.9 Proposed Approach to Mitigation

18.9.1.1 The EIA Regulations require:

> "A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment".

- **Primary Mitigation –** Also known as embedded mitigation, primary mitigation refers to any modifications made to the location or design of the development during the pre-application phase that are an inherent part of the project, and do not require additional action to be taken.
- **Secondary Mitigation –** Secondary mitigation includes actions that will require further activity in order to achieve the anticipated outcome. These may be imposed as part of the planning consent.
- **Tertiary Mitigation –** Tertiary mitigation includes actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental effects.

18.9.1.2 The initial assessment will be undertaken with primary and tertiary mitigation applied and then if there are likely significant effects a further assessment with secondary mitigation will be undertaken to give the residual effect assessment.

18.9.1.3 At scoping stage, the mitigation measures identified are necessarily strategic and will be refined through design development and the subsequent assessment. The measures set out below identify the principal mechanisms through which material consumption, mineral sterilisation and waste generation/disposal effects will be avoided or reduced.

Primary Mitigation

Materials

18.9.1.4 Refinement and amendment of design and / or development objectives to reduce the volume of materials consumed, and to minimise the risk of associated adverse effects.

18.9.1.5 The CES and RMP will identify measures for resource-efficient management of materials across the construction and operational phases, including:

- Setting out and encouraging sustainable procurement criteria for materials, and circular economy action; and/or
- Application of circular economy approaches such as design for off-site construction, for disassembly, and for material and product reassignment, reuse and recycling, during both construction and operational phases.

18.9.1.6 The CES and RMP will identify measures to optimise resource use and incorporate sustainable materials and products to reduce adverse impacts where possible.

18.9.1.7 The developing design will seek to avoid or minimise the sterilisation of economically viable mineral resources and adverse effects on existing or allocated mineral sites and safeguarded mineral infrastructure. Opportunities for prior extraction will be investigated where mineral resources would otherwise be sterilised by the Proposed Development.

18.9.1.8 The Proposed Development will actively investigate opportunities to utilise suitable borrow pits and will seek to incorporate their use where technically, environmentally and economically practicable. Where borrow-pit extraction can be integrated with the development, this may provide opportunities to recover mineral resources that would otherwise be sterilised and to reduce reliance on aggregate sourced from elsewhere. The appropriate approach will be informed by the Mineral Resource Assessment and developing project design.

Waste

18.9.1.9 The design and construction strategy will seek to prevent waste generation in the first instance and maximise the retention and reuse of suitable excavated and construction materials within the Proposed Development where practicable. Where waste cannot be prevented or reused directly, opportunities for segregation, recycling and other forms of recovery will be considered in accordance with the waste hierarchy. As far as possible, the management of excavated materials will take account of their suitability for reuse, environmental quality and regulatory waste status, with the objective of retaining their utility and value.

18.9.1.10 The Lakeside Energy from Waste plant plays an important role in the sustainable management of residual waste. Reasonable endeavours to secure provision of alternative waste treatment capacity broadly equivalent to that which is currently provided by the Lakeside Energy from Waste plant will be made at the design stage. The development and assessment of mitigation will have regard to the timing of any loss of existing capacity and the timing, certainty and scale of replacement or alternative capacity, with the objective of avoiding or minimising any residual shortfall.

Secondary Mitigation

Waste

18.9.1.11 As the design and construction strategy develops, measures will be identified to manage unavoidable construction and excavation wastes, including appropriate segregation and storage; identification of opportunities for on-site and off-site reuse, recycling and recovery; and appropriate management routes for residual wastes. Contractors and the design team will be engaged, as appropriate, to identify practicable opportunities to improve material efficiency, reduce waste generation and increase reuse and recovery.

18.9.1.12 Where residual waste requires disposal to landfill, the waste-management strategy will have regard to the quantity and type of waste requiring disposal, the availability and geographical distribution of appropriate landfill capacity, and the practical availability of that capacity to the Proposed Development. Measures will seek to avoid unnecessary pressure on constrained local or sub-regional landfill capacity while having appropriate regard to the proximity principle and the wider availability of capacity within the relevant study area.

18.9.1.13 Operational waste-management arrangements will be developed to apply the waste hierarchy and facilitate appropriate segregation, storage, collection, reuse, recycling, recovery and disposal of wastes generated by the Proposed Development. The arrangements will have particular regard to specialist and difficult-to-manage waste streams associated with airport operations, including international catering waste, hazardous wastes, confiscated liquids and liquid wastes associated with aircraft maintenance, where relevant. The assessment will consider the availability and suitability of infrastructure required to manage these wastes.

18.9.1.14 The statutory targets for preparation for re-use and recycling of waste, and particularly for material recovery of non-hazardous construction and demolition waste, set out in the Waste (England and Wales) Regulations 2011[29], together with the residual waste reduction target set out in the Environmental Targets (Residual Waste) (England) Regulations 2023[30] will underpin the waste management proposals for the Proposed Development, subject to the relevance of the waste stream to these targets. Attempting to exceed resource efficiency and waste management targets where possible will be an underlying objective, in order to align with the Government's circular economy objectives.

Tertiary Mitigation

18.9.1.15 Applicable statutory and regulatory controls will provide tertiary mitigation for the management of materials and waste. These include, as relevant, requirements relating to the waste hierarchy, duty of care, environmental permitting, hazardous-waste management and the regulatory requirements governing the reuse and

[29] The Waste (England and Wales) Regulations 2011, SI 2011/988, as amended
[30] The Environmental Targets (Residual Waste) (England) Regulations 2023, SI 2023/92.

management of excavated materials. The assessment will take account of these controls where they provide sufficiently certain and established measures for avoiding or reducing environmental effects.

18.10 Summary

18.10.1.1 The elements that could result in likely significant effects requiring assessment and are proposed to be scoped in, and the elements proposed to be scoped out of the Materials and Waste assessment, are summarised below in **Table 18-10**.

Table 18-10: Elements scoped in/out of Materials and Waste assessment

Discipline	Scoped In Elements	Scoped Out Elements
Materials and waste	**Construction – Materials:** Consumption of construction aggregates and other construction materials, potentially reducing their availability for other development. **Construction – Minerals:** Sterilisation of, or temporary or permanent loss of access to, safeguarded mineral resources. **Construction – Minerals:** Loss of, or interference with, existing or allocated mineral extraction sites and associated safeguarded mineral infrastructure. **Construction – Waste:** Disposal of construction, demolition and excavation waste resulting in loss of available landfill void capacity. **Construction – Waste:** Displacement of Lakeside EfW, resulting in the loss, temporary loss or reduction of existing residual-waste treatment/recovery capacity. **Construction – Cumulative:** Combined demand for construction aggregates from the Proposed Development and other developments with overlapping construction periods, potentially increasing pressure on aggregate supply, reserves and landbanks.	**Construction – Materials:** Waste arising from the extraction, processing and manufacture of construction materials before their delivery to the Proposed Development. **Construction – Lakeside EfW:** Environmental effects arising from construction and operation of any separate replacement facility (or facilities) required to replace Lakeside EfW. **Construction and Operation – Indirect Effects:** Indirect environmental effects where those effects are assessed within the relevant specialist EIA topic chapters. **Operation – Indirect Waste:** Waste generated by independent off-site businesses, development or wider activity outside the operational control of HWL, unless a sufficiently direct causal relationship with the Proposed Development can be established and the resulting waste can be reasonably quantified. Relevant committed or reasonably foreseeable development will instead be considered, where appropriate,

Discipline	Scoped In Elements	Scoped Out Elements
	Construction – Cumulative: Combined waste arisings requiring landfill disposal from the Proposed Development and other developments with overlapping construction periods, resulting in accelerated consumption of available landfill capacity. **Operation – Waste:** Generation of operational waste, including international catering waste and other difficult-to-manage wastes such as confiscated liquids and liquid wastes generated during aircraft maintenance, creating demand for suitable waste-management infrastructure and potentially increasing the quantity of waste requiring disposal. **Operation – Cumulative:** Combined operational waste arisings from the Proposed Development and other development, potentially increasing pressure on available landfill capacity.	through the cumulative assessment and future baseline. **Construction and Operation – Lifecycle:** The Proposed Development is intended to be permanent and no reasonably foreseeable decommissioning or end-of-life phase forms part of the Proposed Development. Quantitative end-of-life materials and waste effects are therefore scoped out. Maintenance, refurbishment and replacement activities will be considered within the operational assessment where relevant. **Decommissioning:** Consumption of materials and generation of waste associated with decommissioning of the Proposed Development.

Environmental Impact Assessment Scoping Report

Chapter 19

Major Accidents and Disasters

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Appendix 19.1: Longlist of MA&D

19 Major Accidents and Disasters

19.1 Introduction

19.1.1.1 This Chapter of the Environmental Impact Assessment (EIA) Scoping Report has been prepared by Stantec and sets out the proposed scope and methodology for the assessment of Major Accidents and Disasters (MA&D) associated with the Proposed Development.

19.1.1.2 The Infrastructure Planning (EIA) Regulations (the EIA Regulations) require the Environmental Statement (ES) to include:

"A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and / or disasters which are relevant to the project concerned[...] and 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."

19.1.1.3 The Institute of Sustainability and Environmental Professionals (ISEP) produced a guidance document for this topic titled Major Accidents and Disasters in EIA: A Primer, (hereafter, the 'ISEP Primer') which has informed the Scoping assessment.

19.1.1.4 The ISEP Primer defines a Major Accident as:

"Events that threaten immediate or delayed serious environmental effects to human health, welfare and / or the environment and require the use of resources beyond those of the client or its appointed representatives to manage. Whilst malicious intent is not accidental, the outcome (e.g. train derailment) may be the same and therefore many mitigation measures will apply to both deliberate and accidental events."

19.1.1.5 The ISEP Primer defines a Disaster as:

"May be a natural hazard (e.g. earthquake) or a man-made / external hazard (e.g. act of terrorism) with the potential to cause an event or situation that meets the definition of a major accident."

19.1.1.6 In accordance with the Infrastructure Planning (EIA) Regulations 2017 (as amended), this Chapter identifies the potential for likely significant environmental effects arising from the vulnerability of the Proposed Development to MA&D and the potential for the Proposed Development to generate or exacerbate MA&D events. It sets out the proposed assessment methodology to inform the scope of the future ES.

19.1.1.7 This Chapter should be read in conjunction with **Chapter 6: Biodiversity**, **Chapter 7: Ornithology**, **Chapter 10: Community**, **Chapter 11: Economics and Employment**, **Chapter 13: Historic Environment**, **Chapter 14: Health**, **Chapter 16: Ground Conditions**, **Chapter 17: Agricultural Land and Soils**, **Chapter 21: Traffic and Transport** and **Chapter 22: Water Environment**.

19.1.1.8 The scope and methodology presented in this chapter have been informed by relevant legislation, policy and guidance, available evidence, consultation and professional judgement.

19.2 Policy, Legislation and Guidance

19.2.1.1 This Section identifies the relevant topic specific policies that have informed the scope. Further information on the policies relevant to the EIA and their status is set out in **Chapter 1: Introduction**, which should be read in conjunction with this chapter.

19.2.1.2 The EIA Regulations provide the primary legislative framework for the assessment of the Proposed Development's vulnerability to MA&D, as previously noted. However, other relevant legislation and policy have been identified (**Table 19-1**) and considered within this assessment, where applicable.

Table 19-1: Policy Relevant to the MA&D Assessment

Relevant Policy	Relevance to Assessment
Policy – National	
Airports National Policy Statement (ANPS) (2018) [1]	The Airports National Policy Statement (ANPS) was designated in 2018 and remains the current designated National Policy Statement for airport expansion at Heathrow. Paragraph 4.47 requires the latest UK Climate Projections for 2080 to be considered for safety-critical elements with a design life of 60 years or more, using the 10%, 50% and 90% probability levels to account for high-impact, low-likelihood climate scenarios. The policy set out requirements for addressing terrorism and security risks through appropriate physical, procedural and personnel security measures, including consultation with relevant security authorities. Paragraph 5.50 recognises that detailed flight path design is subject to the separate airspace change process overseen by the CAA. The Policy also requires the planning authority to ensure that water receptors are not placed at unacceptable risk or adversely affected by water pollution.
Draft Heathrow Expansion National Policy Framework (HENPS) (2026)[2]	The Government published the proposed revised Heathrow National Policy Statement, renamed the Draft HENPS, in June 2026. The HENPS is currently subject to consultation and Parliamentary scrutiny and is not yet designated. Relevant provisions include climate change allowances and UK Climate Projections for safety-critical infrastructure; aviation security and the management of terrorism and security risks; flight path design and the CAA airspace change process; and the protection of water receptors from unacceptable risks and water pollution. Once designated, the HENPS

[1] Department for Transport. Airport National Policy Statement: new runway capacity and infrastructure at airports in the South East of England. Published June 2018. Available at: https://www.gov.uk/government/publications/airports-national-policy-statement

[2] Department for Transport. Proposed draft revision to the Airports National Policy Statement – to be known as the Heathrow Expansion National Policy Statement. Published June 2026. Available at: https://www.gov.uk/government/publications/draft-heathrow-expansion-national-policy-statement

Relevant Policy	Relevance to Assessment
	will replace the 2018 ANPS as the applicable National Policy Statement for Heathrow expansion.
National Planning Policy Framework (NPPF) (August 2026)[3]	The NPPF sets out the Government's planning policies for England and how these should be applied. It provides the framework for plan-making and decision-making on development proposals. The August 2026 NPPF replaces the previous version published in December 2024. The NPPF does not contain specific policies for nationally significant infrastructure projects (NSIPs), which are determined in accordance with the Planning Act 2008 (as amended), relevant National Policy Statements and other matters that are relevant to the decision. However, the NPPF may provide relevant considerations for the assessment of MA&D. Policy P5 of the NPPF, 'Maintaining public safety and security', states that development proposals should anticipate and address possible malicious threats and other hazards, whether natural or man-made. The policy requires consideration of potential safety risks to occupiers and users and the identification of proportionate mitigation opportunities that can be addressed through the design of the development. Particular consideration is given to locations where large numbers of people are expected to congregate, including transport hubs and other major public facilities. Proposals for major development in such locations should be informed by the most up-to-date information available from the police and other relevant agencies regarding potential threats and their implications, with appropriate and proportionate measures incorporated to reduce vulnerability, increase resilience and ensure public safety and security. Policy P5 also addresses development involving major hazard sites, major accident hazard pipelines and Health and Safety Executive licensed explosive sites. Such

[3] Ministry of Housing, Communities and Local Government. National Planning Policy Framework (NPPF), Plan-making and national decision-making policies. Published August 2026. Available at: https://assets.publishing.service.gov.uk/media/6a8334c03bd75b81e2329ac4/National_Planning_Policy_Framework.pdf

Relevant Policy	Relevance to Assessment
	development should only proceed where it can be demonstrated that it would not increase the risk or adverse consequences of a major accident. The policy further states that development within consultation zones around major accident hazard sites, major accident hazard pipelines and licensed explosives sites, as well as safeguarded areas around civilian aerodromes and certain other designated zones, should only be supported where, having consulted the relevant consultation bodies, it is clear that the development will be safe for occupiers and users and will not impose constraints on the operation of the facility or facilities to which the safeguarded area or consultation zone relates. Policy P6, 'Land and operations for defence and public safety', states that substantial weight should be attached to the importance of sites, activities, facilities and infrastructure required to maintain and enhance defence capability, or whose primary purpose is public safety, when considering proposals which could affect their operational activity and capability. This is of particular relevance to an airport environment where development has the potential to interact with aviation safety, security and other operational requirements. The NPPF therefore provides relevant policy context for the MA&D assessment, particularly in relation to public safety, resilience, natural and man-made hazards, major hazard sites and infrastructure, and the need to have regard to the advice of relevant authorities and agencies. For the purposes of this assessment, Policy P5 is particularly relevant given the large numbers of people who may be present at Heathrow Airport and the range of potential hazards and security considerations associated with the operation of a major international airport.
National Risk Register[4]	The National Risk Register (NRR) is the external version of the National Security Risk Assessment (NSRA), which is the government's assessment of the most serious risks

[4] HM Government. National Risk Register. 2026 edition. Available at: https://assets.publishing.service.gov.uk/media/6a50d66b1228eb26a4cab76c/National_Risk_Register_2026.pdf

Relevant Policy	Relevance to Assessment
	facing the UK. It provides the government's updated assessment of the likelihood and potential impact of a broad range of risks that may directly affect the UK and its interests. As such, it provides nationally recognised risks and hazards relevant to the identification of credible MA&D scenarios.
Health and Safety Executive's (HSE) "Reducing Risks, Protecting People" (R2P2)[5]	R2P2 sets out the HSE[6] framework for decision making in relation to the management of risks to human health and safety. It establishes the principles of risk tolerability and provides the guidance on assessing risks to people, including consideration for the likelihood and consequences of major incidents. The tolerability criteria set out within R2P2 have been used to inform the assessment approach and the consideration of significance of effects associated with MA&D.
Control of Development in Airport Public Safety Zones (PSZs) (October 2021)[7]	Outlines Government policy for controlling development within the vicinity of airports where there is an increased risk associated with aircraft accidents. The guidance establishes the approach for managing development within PSZs, based on the individual risk to people on the ground, and aims to limit the number of people exposed to significant risks from aircraft operations.
Civil Contingencies Act 2004[8]	The Civil Contingencies Act 2004 establishes the legislative framework for civil protection and emergency preparedness in the UK. The Act is divided into two parts: civil protection (part 1) and emergency powers (part 2). Part 1 places duties on relevant organisations involved in emergency planning and response, including requirements relating to risk assessment, contingency planning, emergency preparedness,

[5] Health and Safety Executive (HSE). Reducing Risks, Protecting People, HSE's decision-making process. First published 2001. Available at: Reducing Risks: Protecting People - HSE's decision making process
[6] Health and Safety Executive (HSE) website. Available at: HSE: Information about health and safety at work
[7] Department for Transport. Control of development in airport public safety zones. Published 8 October 2021. Available at: Control of development in airport public safety zones - GOV.UK
[8] HM Government. Civil Contingencies Act 2004. Available at: Civil Contingencies Act 2004

Relevant Policy	Relevance to Assessment
	management arrangements, information sharing and stakeholder coordination. The Act provides the overarching framework for the identification, assessment and management of risks associated with major emergencies.
Aviation Policy Framework (APF) (March 2013)[9]	The APF sets out the Government's overall policy approach for aviation in the UK. It provides guidance on the sustainable development of aviation, including considerations relating to safety, security, resilience and the management of risks associated with airport operations. The APF has been considered in relation to the assessment of potential MA&D associated with the Proposed Development.
Draft London Plan[10]	The Draft London Plan sets out the Mayor of London's emerging spatial development strategy for Greater London and provides the strategic planning framework for future growth and development across the capital. The Draft London Plan contains policies relating to sustainable development, climate resilience, infrastructure capacity, design, health and safety, and the creation of resilient communities. It also includes provisions relating to security and safety considerations within the built environment and supports the delivery of development that is resilient to a range of hazards and risks. The Draft London Plan has been considered in relation to the assessment of potential MA&D associated with the Proposed Development, particularly regarding the resilience, safety and sustainable development of new infrastructure and buildings within Greater London. MBUL10 – Managing Industrial Land and GLE9 – Green Infrastructure: The policies set out requirements for managing industrial land and protecting and enhancing green infrastructure across London. MBUL10 supports the retention and appropriate use of industrial land and seeks to ensure that industrial development is compatible with surrounding land uses, while GLE9 supports the protection, enhancement and creation

[9] Department for Transport. Aviation Policy Framework. Published March 2013. Available at: Aviation policy framework - GOV.UK
[10] The London Plan. Published 16 July 2026. Available at: Draft London Plan | London City Hall

Relevant Policy	Relevance to Assessment
	of green infrastructure and the provision of connected green networks. The policies have been considered in relation to the assessment of potential MA&D associated with the Proposed Development, particularly regarding land use compatibility, environmental protection and the resilience of surrounding green infrastructure.
Hounslow Local Plan 2015-2030 EQ9 and EC3[11]	Sets out requirements for managing risks associated with hazardous substances and development around Heathrow Airport. EQ9 seeks to prevent unacceptable risks to people and the environment from hazardous substances, while EC3 addresses airport safeguarding and development that could affect aviation safety and airport operations. These policies are retained in the Regulation 19 Hounslow Local Plan 2020–2041.
Spelthorne Local Plan 2024 – 2039-40, SP7 and E4[12]	SP7 – Heathrow Airport: Sets out the planning framework for development associated with Heathrow Airport, including airport expansion, safeguarding and the management of impacts on local communities and the environment. It seeks to ensure development addresses effects including noise, air quality, transport, biodiversity and other environmental impacts, while protecting designated environmental assets. E4 – Environmental Protection: Sets out requirements for protecting the environment and human health from pollution and other environmental impacts associated with development. It addresses matters including air, water, soil, noise, light and land contamination, requiring development to avoid unacceptable impacts and, where appropriate, incorporate measures to prevent, reduce or mitigate pollution.

[11] AECOM. Integrated Impact Assessment (IIA) for the Hounslow Local Plan Review. IIA report (accompanying Regulation 19 consultation) London Borough of Hounslow. Published August 2024. Available at: HLP Reg 19 IIA Report

[12] Spelthorne Borough Council. Spelthorne Local Plan 2024-2039/40. Published March 2026. Available at: Spelthorne Local Plan 2024-2039-40 (March 2026).pdf

Relevant Policy	Relevance to Assessment
Runnymede Local Plan (adopted July 2020) Policy EE2[13]	Sets out Runnymede's approach to protecting important archaeological remains, identifying areas of archaeological interest where development could affect the historic environment. The policy seeks to ensure important archaeological remains are preserved where appropriate and that, where preservation in situ is not feasible, suitable investigation and recording is undertaken.
London Plan 2021[14]	Sets out the Mayor of London's strategic planning framework for Greater London, providing an integrated approach to the city's spatial, economic, social, environmental and transport development. It promotes sustainable "Good Growth" while providing policies covering development and land use, design, housing, heritage, green infrastructure, biodiversity, climate change, energy, water, flood risk, transport and aviation. The Plan forms part of the statutory development plan and provides the strategic framework within which London boroughs prepare their Local Plans and determine planning applications.
South Bucks Local Plan 2011[15] EP16, 17 and Regulation 19 Buckinghamshire Plan	EP16 seeks to prevent unacceptable risks to people and the environment from hazardous substances and is directly relevant to the assessment of major accident risks. EP17 addresses aerodrome safeguarding and seeks to ensure development does not adversely affect the safe movement of air traffic. The Regulation 19 Buckinghamshire Plan provides the emerging strategic planning framework for the area, including policies relevant to Heathrow, hazardous substances, aviation safeguarding and environmental constraints.

[13] National Data Library. Preservation and Recording of Archaeological Remains (EE2), Runnymede Borough Council, Published 1 September 2020. Available at: Preservation and Recording of Archaeological Remains (EE2) - National Data Library
[14] Mayor of London. The London Plan 2021. The spatial development strategy for Greater London. Published March 2021. Available at: The London Plan 2021 | London City Hall

Table 19-2: Legislation Relevant to the MA&D Assessment

Relevant Legislation	Relevance to Assessment
Legislation – International	
EU Directive 2014/52/EU[16]	Introduced explicit consideration of MA&D within EIA.
EU Seveso III Directive (Directive 2012/18/EU)[17]	The Seveso Directives are the main EU legislation dealing specifically with the control of onshore major accident hazards involving dangerous substances. The Seveso III Directive came into force on 1 June 2015, replacing the Seveso II Directive. The Seveso Directive states that: "*In order to ensure a high level of protection of the environment, precautionary actions need to be taken for certain projects which, because of their vulnerability to major accidents, and / or natural disasters (such as flooding, sea level rise, or earthquakes) are likely to have significant adverse effects on the environment. For such projects, it is important to consider their vulnerability (exposure and resilience) to major accidents and / or disasters, the risk of those accidents and / or disasters occurring and the implications for the likelihood of significant adverse effects on the environment.*" (paragraph 15).
Legislation – National	
Health and Safety at Work etc. Act 1974[18]	This Act is the primary piece of legislation governing workplace health and safety in the UK. The Act places duties on employers and others to protect the health, safety and welfare of people affected by

[16] European Union. Document 32014L0052. Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment Text with EEA relevance. Published 16 April 2014. Available at: Directive - 2014/52 - EN - EIA - EUR-Lex
[17] European Union. Document 32012L0018. Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC Text with EEA relevance. Published 4 July 2012. Available at: Directive - 2012/18 - EN - Seveso III - EUR-Lex
[18] European Union. Document 32012L0018. Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC Text with EEA relevance. Published 4 July 2012. Available at: Directive - 2012/18 - EN - Seveso III - EUR-Lex

Relevant Legislation	Relevance to Assessment
	their activities. Under Part 1 of the Act, risks must be reduced so far as is reasonably practicable, with the aim of preventing intolerable risks and minimising residual risks. The HSE, alongside local authorities, is responsible for enforcing the requirements of the Act.
Management of Health and Safety at Work Regulations 1999[19]	These Regulations include a specific requirement that risks to people are suitably and sufficiently assessed. Though not explicit in the regulations, implicitly this includes any associated with MA&D.
Control of Major Accident Hazards Regulations 2015 (COMAH)[20]	COMAH aims to prevent and mitigate the effects of major accidents involving dangerous substances which can cause serious damage / harm to people and / or the environment. COMAH implement the Seveso III Directive in the UK and aim to prevent major accidents involving dangerous substances and limit their consequences for people and the environment. The Regulations apply to establishments where dangerous substances are present above specified threshold quantities and place duties on operators to identify, assess and manage major accident hazards through proportionate safety and environmental risk management measures. The Regulations, together with associated guidance, have informed the assessment methodology for identifying potential MA&D and evaluating their significance. COMAH is enforced by the Competent Authority, comprising the HSE and the Environment Agency (EA) in England.
Infrastructure Planning (EIA) Regulations 2017[21]	Set out the EIA requirements for nationally significant infrastructure projects, including the requirement to identify, describe and assess the likely significant effects of the Proposed Development on the environment. This includes consideration of effects on population and human health, biodiversity, land,

[19] HM Government. The Management of Health and Safety at Work Regulations 1999. Published 1999. Available at: The Management of Health and Safety at Work Regulations 1999
[20] Health and Safety Executive. Control of Major Accident Hazards Regulations 2015 (COMAH). Published 2015. HSE Control of Major Accident Hazards Regulations 2015 (COMAH). Available at: Control Of Major Accident Hazards Regulations 2015 (COMAH) - HSE
[21] HM Government. The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. Available at: The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

Relevant Legislation	Relevance to Assessment
	soil, water, air, climate, material assets, cultural heritage (including architectural and archaeological heritage), and the landscape, as well as the interaction between these factors. The EIA Regulations also require consideration of the vulnerability of the Proposed Development to MA&D that are relevant to the project, including the identification of any likely significant adverse effects arising from such events. Where appropriate, the assessment should consider measures proposed to prevent or mitigate such effects, together with preparedness for and the proposed response to emergencies. In addition, the EIA Regulations require consideration of climate change in determining whether a development is likely to have significant effects at the screening stage. This principle is also relevant to the subsequent EIA, where the assessment should consider the potential for the Proposed Development to be vulnerable to climate change and the implications of climate-related risks for the environment, human health and cultural heritage, where relevant. For the purposes of this assessment, the EIA Regulations therefore provide the overarching legislative framework for considering the potential for MA&D to result in significant effects on the environment, including effects on human health and cultural heritage, as distinct receptors requiring consideration alongside the wider environmental effects of the Proposed Development.
Control of Substances Hazardous to Health Regulations 2002 (COSHH)[22]	Relevant to the management of hazardous substances during construction and operation and the prevention of incidents involving exposure or release.
Lifting Operations and Lifting Equipment	Relevant to prevention of lifting incidents during construction and operation, including controls for lifting equipment and safe lifting activities.

[22] HM Government. The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. Available at: The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

Relevant Legislation	Relevance to Assessment
Regulations 1998 (LOLER)[23]	
Fire Safety Act 2021[24] (Royal Assent 29/04/21)	The Fire Safety Act 2021 was introduced to strengthen the fire safety regime in England following recommendations arising from the Grenfell Tower Inquiry. The Act clarifies that the Regulatory Reform (Fire Safety) Order 2005 applies to a building's structure, external walls (including cladding, balconies and windows) and flat entrance doors within multi-occupied residential buildings. The legislation reinforces the requirement for fire risk assessment and management throughout the building lifecycle and has implications for the design, construction and operation of new buildings. The provisions of the Act will be considered in the development and assessment of the Proposed Development to ensure that fire safety risks are appropriately identified and managed.
Building Safety Act 2022[25] (Royal Assent 28/04/22)	The Building Safety Act 2022 establishes a new regulatory framework for building safety in England, introducing enhanced responsibilities and accountability for the design, construction and management of buildings. Developed in response to lessons learned from the Grenfell Tower fire, the Act creates a more stringent regime for higher-risk buildings, strengthens oversight through the Building Safety Regulator and promotes consideration of fire and structural safety throughout the lifecycle of a building. The legislation requires a greater focus on safety, competence and risk management during the design and construction process and is therefore relevant to the assessment and design development of the Proposed Development.

[23] Health and Safety Executive. Lifting Operations and Lifting Equipment Regulations (LOLER). Published 1998. Available at: Lifting Operations and Lifting Equipment Regulations (LOLER) - HSE

[24] National Fire Chiefs Council. The Fire Safety Act 2021. Available at: https://nfcc.org.uk/our-services/building-safety/the-fire-safety-act-2021/

[25] Ministry of Housing, Communities and Local Government and Department for Levelling Up, Housing and Communities. The Building Safety Act. Published 25 July 2022. Available at: The Building Safety Act - GOV.UK

Table 19-3: Guidance Relevant to the MA&D Assessment

Relevant Guidance	Relevance to Assessment
Guidance – National	
HSE Major Hazard Regulatory Model: Safety Management in Major Hazard Sectors[26]	This guidance sets out HSE's regulatory approach to the management of major hazard risks. It describes the principles of effective safety management systems and the identification, assessment and control of major accident hazards to prevent incidents and minimise their consequences for people and the environment. The guidance provides context for the assessment and management of major accident risks.
HSE Guidance on the COMAH Regulations 2015[27]	This guidance provides information on the implementation of the COMAH Regulations, including the identification, assessment and management of major accident hazards involving dangerous substances. It supports operators in demonstrating compliance with the Regulations and informs good practice in the prevention and mitigation of major accidents affecting people and the environment.
Department for Environment, Food and Rural Affairs (Defra) Green Leaves III: Guidelines for Environmental Risk Assessment[28]	This guidance provides a framework for assessing environmental risks and supports a consistent approach to identifying hazards, evaluating potential impacts and considering appropriate risk management measures. The guidance has informed the approach to assessing potential environmental consequences associated with MA&D.

[26] HSE Major Hazard Regulatory Model, safety management in major hazard sectors. Available at: Major Hazards Regulatory Model | PDF
[27] HSE's The Control of Major Accident Hazards (COMAH) Regulations 2015 (L111, Third edition). Published 1 June 2015. Available at: A guide to the Control of Major Accident Hazards Regulations (COMAH) 2015 - HSE
[28] Department for Environment, Food & Rural Affairs. Guidelines for environmental risk assessment and management: Green leaves III. Published 7 November 2011. Available at: Guidelines for environmental risk assessment and management: Green leaves III - GOV.UK

Relevant Guidance	Relevance to Assessment
ISO 31000:2018 Risk Management – Guidelines[29]	These guidelines provide internationally recognised principles and guidance for establishing a structured approach to risk management. It outlines a framework for identifying, analysing, evaluating and treating risks, supporting consistent decision making. The principles within ISO 31000 have informed the approach to the identification and assessment of potential MA&D risks.
Civil Aviation Authority (CAA) CAP 760: Guidance on Hazard Identification, Risk Assessment and the Production of Safety Cases[30]	This guidance provides information on the systematic identification of hazards, assessment of associated risks and development of safety cases within the aviation sector. The guidance supports a structured approach to demonstrating that aviation safety risks have been identified, assessed and reduced to an acceptable level through appropriate mitigation measures. CAP 760 has informed the consideration of aviation related hazards within the MA&D assessment.
Department for Transport (DfT) Aviation Security in Airport Development 2017[31]	This guidance provides information on the consideration of aviation security requirements during the planning, design and development of airport infrastructure. It promotes the integration of security measures into the design process to manage potential security risks and reduce vulnerability to malicious threats. The guidance has informed the consideration of security related risks within the MA&D assessment.

[29] Department for Environment, Food & Rural Affairs. Guidelines for environmental risk assessment and management: Green leaves III. Published 7 November 2011. Available at: Guidelines for environmental risk assessment and management: Green leaves III - GOV.UK

[30] UK CAA. Guidance on the Conduct of Hazard Identification, Risk Assessment and the Production of Safety Cases: For Aerodrome Operators and Air Traffic Service Providers. CAP 760. 1st Edition. Published 10 December 2010. Available at: CAP 760: Guidance on the Conduct of Hazard Identification, Risk Assessment and the Production of Safety Cases: For Aerodrome Operators and Air Traffic Service Providers | UK Civil Aviation Authority

[31] British Aviation Group. Aviation Security in Airport Development - implications for designers and airport operators. Published 10 April 2018. Available at: Aviation Security in Airport Development - implications for designers and airport operators - British Aviation Group

Relevant Guidance	Relevance to Assessment
UK Main National Aviation Safety Plan[32] (NASP)	The NASP sets out the Civil Aviation Authority's strategic framework for the management and continuous improvement of aviation safety within the United Kingdom. The NASP identifies key operational safety risks, organisational challenges and associated Safety Enhancement Initiatives designed to improve aviation safety performance across the sector. It is aligned with the International Civil Aviation Organization's Global Aviation Safety Plan and complements the UK State Safety Programme. The NASP has been considered as part of the assessment of MA&D, providing relevant context on current aviation safety priorities, risk management approaches and regulatory focus areas applicable to airport operations and associated infrastructure.
Institute of Sustainability and Environmental Professionals (ISEP) Primer: Major Accidents and Disasters (2020)[33]	The ISEP Primer provides guidance on the consideration of MA&D within the EIA process. It sets out principles for identifying potential MA&D scenarios, assessing the likelihood and consequences of events, and determining the significance of potential effects on environmental and human receptors. The guidance has informed the methodology for the identification, assessment and evaluation of MA&D risks associated with the Proposed Development.
Chemical and Downstream Oil Industries Forum (CDOIF) Guidelines: Environmental Risk Tolerability for COMAH Establishments[34]	This guidance provides information on assessing the tolerability of environmental risks associated with major accidents at COMAH establishments. The guidance supports the evaluation of potential environmental consequences from major accident scenarios involving dangerous substances and provides a framework for determining whether risks are tolerable.

[32] UK Civil Aviation Authority (CAA). Guidance on the Conduct of Hazard Identification, Risk Assessment and the Production of Safety Cases: For Aerodrome Operators and Air Traffic Services Providers. Version 1st Edition Inc amdt 2010/01, version date 10 December 2010. Available at: UK CAA National Aviation Safety Plan

[33] Institute of Sustainability and Environmental Professionals (ISEP). Major Accidents and Disasters in EIA: An ISEP Primer. Published September 2020. Available at: ISEP - Institute of Sustainability and Environmental Professionals

[34] Chemical and Downstream Oil Industries Forum (CDOIF). Guideline: Environmental Risk Tolerability for COMAH Establishments v2. Available at: Chemical and Downstream Oil Industries Forum (CDOIF) Guidelines: Environmental Risk Tolerability for COMAH Establishments

Relevant Guidance	Relevance to Assessment
Guidance – International	
European Union Aviation Safety Agency (EASA) Certification Specifications and Guidance Material for Aerodrome Design[35]	This provides technical specifications and guidance for the design and safe operation of aerodromes. It establishes requirements relating to aerodrome infrastructure, operational safety and the management of potential hazards that could affect aircraft operations. Although the UK has left the European Union, relevant EASA requirements have been retained within UK legislation and continue to inform aerodrome certification and safety requirements. The guidance has informed the consideration of aviation-related risks with the MA&D assessment.
Global Aviation Safety Plan[36] (GASP)	The International Civil Aviation Organization's (ICAO) GASP establishes the worldwide strategic framework for the continuous improvement of aviation safety. The GASP identifies global aviation safety goals, priorities and safety enhancement initiatives, promoting a risk-based approach to aviation safety management and encouraging collaboration between States, regulators and industry stakeholders. The GASP aims to support the reduction of operational safety risks, strengthen safety oversight capabilities and improve the overall safety performance of the international aviation system.
European Regional Aviation Safety Plan[37] (EUR RASP)	The European Regional Aviation Safety Plan (EUR RASP) sets out the regional strategy for the continuous improvement of aviation safety across the ICAO European Region. The EUR RASP identifies key regional operational safety risks, organisational challenges and safety enhancement initiatives, supporting a coordinated and risk-based approach to aviation safety management. The plan promotes collaboration between States, regulators and industry and provides the regional framework from which National Aviation Safety Plans are developed. The

[35] European Union Aviation Safety Agency (EASA). CS-ADR-DSN Aerodromes Design. Available at: Certification Specifications (CSs) / Detailed Specifications (DSs) | EASA
[36] International Civil Aviation Organization (ICAO) Global Aviation Safety Plan (GASP) Doc 10004 2026-2028. Available at: GASP/Home
[37] ICAO European Union Regional Aviation Safety Plan (EUR RASP), 2026-2028. Published 1 January 2026. Available at: EURNAT - EUR-RASP

Relevant Guidance	Relevance to Assessment
	EUR RASP aligns with the ICAO GASP, the European Plan for Aviation Safety (EPAS) and national aviation safety plans, including the NASP.

19.3 Stakeholder Engagement

19.3.1.1 At the time of writing, no topic-specific consultation relating solely to MA&D has been undertaken. However, the Heathrow Airport Limited (HAL)[38] scoping opinion has been reviewed by the MA&D assessment team, and the comments and recommendations relevant to MA&D have been taken into account in developing the assessment approach. HAL's scoping opinion relates to a separate development, however they provide relevant background and context for our assessment. Further consultation specifically in relation to the Proposed Development will be undertaken, as appropriate, to inform the assessment.

19.3.1.2 Consultation will be undertaken with relevant regulatory bodies and stakeholders during the EIA process where required to inform the assessment of potential MA&D risks, emergency planning arrangements and relevant hazard sources.

Table 19-4: Proposed Stakeholder Engagement

Consultee	Engagement Undertaken to Date	Proposed Future Engagement
Health and Safety Executive (HSE)	None specifically undertaken to date.	Consultation will be undertaken regarding major accident hazard sources, nearby regulated facilities, hazardous installations, and the approach to risk identification and assessment.
Environment Agency	Introductory engagement has taken place.	Consultation will be undertaken regarding flood risk, hazardous substances, pollution incidents, environmental receptors and the scope of the MA&D assessment.
Civil Aviation Authority (CAA)	None specifically undertaken to date.	Consultation will be undertaken regarding aviation safety matters, airport emergency planning arrangements, aircraft accident risks and relevant guidance relating to MA&D.
Local Authorities	None specifically undertaken to date.	Consultation will be undertaken regarding emergency planning arrangements, local resilience considerations, sensitive receptors, and known hazard sources within the surrounding area.

[38] Planning Inspectorate. Scoping Opinion: Proposed Expansion of Heathrow Airport (Third Runway), Case Reference: TR020003. Published 10 October 2025. Available at: TR020003-001028-2025 Scoping Opinion.pdf

Consultee	Engagement Undertaken to Date	Proposed Future Engagement
Emergency Responders (including Fire and Rescue Service, Ambulance Service, Police and London Resilience Group)	None specifically undertaken to date.	Consultation will be undertaken regarding emergency response capability, access arrangements, incident management procedures and potential requirements relevant to MA&D scenarios.
Natural England	None specifically undertaken to date.	Consultation will be undertaken regarding designated ecological sites, protected habitats and species, and potential consequences of major accident events on sensitive ecological receptors.

19.4 Study Area

19.4.1 Study Area

19.4.1.1 The Study Area for the MA&D assessment will be defined according to the nature of the hazards being considered and the receptors potentially affected. A single fixed Study Area is not considered appropriate given the range of potential MA&D scenarios that may require consideration. The extent of the Study Area will therefore vary depending on the nature of the hazard and the plausible area over which significant environmental effects could occur.

19.4.1.2 This approach is consistent with the ISEP Primer, which states that the spatial scope should include external features that may present a hazard to the development, even where these are beyond the scheme boundaries. The MA&D assessment will therefore consider hazards originating both within and beyond the Scoping Boundary where there is potential for those hazards to affect, or be affected by, the Proposed Development

19.4.1.3 As an initial screening basis, receptors and hazard sources within 2km of the Proposed Development will be reviewed to identify potential MA&D source–pathway–receptor linkages (as shown in **Figure 3-2**). This 2km area provides a starting point for baseline review only and does not define the maximum extent of the MA&D assessment. Where the nature of a hazard, available baseline information, consultation responses or related topic assessments indicate that a MA&D event could affect receptors over a wider or different geographic extent, the relevant study area will be extended or refined accordingly.

19.4.1.4 The initial baseline review will consider the Proposed Development and surrounding area with reference to potential external hazard sources, including:

- COMAH establishments;
- Hazardous installations;
- Major accident hazard pipelines;
- Airport operational safety constraints;
- Transport infrastructure;
- Utility infrastructure; and
- Fuel infrastructure and other receptors or sources that could influence or be influenced by a MA&D event.

19.4.1.5 COMAH establishments and other major hazard facilities within the wider Heathrow area will be identified through review of HSE datasets and consultation records. The assessment will consider:

- Aviation-related hazards;
- Airport operational areas;
- Relevant Public Safety Zones (PSZs);
- Aircraft ground movements; and
- Relevant phases of flight where there is a credible source–pathway–receptor linkage associated with the Proposed Development.

19.4.1.6 PSZs are established at the ends of runways to control development in areas where there is an increased risk associated with aircraft accidents during take-off and landing.

19.4.1.7 For transport-related hazards, the Study Area will encompass strategic and local transport infrastructure with the potential to give rise to, or be affected by, major incidents involving the Proposed Development. The extent of this Study Area will be determined by the transport assessment and traffic modelling undertaken for the EIA.

19.4.1.8 The final Study Area adopted for each hazard type will be determined using a source–pathway–receptor approach and will be informed by the nature of the hazard, the location and sensitivity of receptors, consultation responses, available risk information, relevant EIA topic assessments and the potential geographic extent of significant environmental effects.

19.4.1.9 The final study areas adopted for individual hazards will be presented and justified within the ES.

19.5 Sources of Data used in Scoping

19.5.1 Baseline Sources

19.5.1.1 The following sources of information, current at the time of writing, have been reviewed to provide the list of possible MA&D events:

- Cabinet Office National Risk Register 2025;
- London Risk Register Version 14, January 2025;
- London Resilience Partnership frameworks and response plans, including relevant multi-agency emergency response, recovery, humanitarian assistance, severe weather, pandemic and voluntary sector capability frameworks;
- Thames Valley Local Resilience Forum;
- Civil Aviation Authority (CAA) CAP 1036 Global Fatal Accident Review 2002 to 2011 and CAP 760;
- SAFER platform;
- COMAH guidance;
- CDOIF environmental risk tolerability guidance;
- Environment Agency pollution prevention / incident response guidance;
- Environment Agency flood risk mapping and reservoir flood mapping;
- UK Climate Projections / Met Office climate data;
- British Geological Survey geological hazard datasets; and
- European Commission's Major Accident Reporting Systems (eMARS) website.

19.5.1.2 Baseline information will be obtained from relevant EIA topic assessments, publicly available datasets, Heathrow Airport operational information (where available), emergency planning documentation and regulatory sources as set out in Table 19-5. This data will be used to identify environmental receptors, potential hazard sources, existing control measures and conditions that may influence the likelihood or consequence of a MA&D.

19.5.1.3 The assessment will consider:

- Existing airport operations and infrastructure;
- Surrounding communities and sensitive populations;
- Transport infrastructure;
- Utility infrastructure;
- Environmental designations;
- Water environment receptors;
- Hazardous installations;

- Major accident hazard infrastructure (for example, COMAH establishments, aviation fuel storage, fuel pipelines and high-pressure gas mains); and
- Natural hazard sources, including those influenced by climate change.

Table 19-5: Data Sources used for Scoping

Source	Relevance to the Assessment
UK National Risk Register (NRR) 2026[39]	National risk context and hazard identification that could reasonably affect the Proposed Development.
London Risk Register[40]	Identifies hazards specific to Greater London and provides local evidence for hazard likelihood and relevance.
Thames Valley Local Resilience Forum[41]	Provides local and regional information on risks, emergency planning arrangements and resilience capabilities.
London Resilience Partnership[42]	Provides regional resilience and emergency planning context for Greater London, including multi-agency response, recovery and humanitarian assistance arrangements for major incidents.
Emergency Response Plans from the Metropolitan Police, London Ambulance Service and the London Fire Brigade[43]	Provides information on existing emergency preparedness, incident response capability, command structures and resilience arrangements relevant to MA&D events.
EA flood risk datasets[44]	Identify flood hazards from rivers, surface water, reservoirs and groundwater. Used to assess whether flooding could trigger a MA&D.

[39] HM Government. National Risk Register. 2026 edition. Available at: National_Risk_Register_2026.pdf
[40] Mayor of London. London Risk Register Version 14. Published January 2025. Available at: London Risk Register
[41] Thames Valley Local Resilience Forum. Community Risk Register. Copyright 2026. Available at: Thames Valley Local Resilience Forum
[42] Mayor of London, London Resilience Partnership. Available at: London Resilience Partnership | London City Hall
[43] Metropolitan Police. Emergency Response Plans from the Metropolitan Police, London Ambulance Service and the London Fire Brigade. The London Emergency Service Liaison Panel. Available at: Emergency Response Plans from the Metropolitan Police, London Ambulance Service and the London Fire Brigade
[44]Environment Agency Flood Map for Planning - Flood Zones. Publication date 25 March 2025, revision date 20 May 2026. Available at: EA flood risk datasets

Source	Relevance to the Assessment
Met Office climate and severe weather data[45]	Identifies baseline and future risks associated with storms, high winds, snow, heatwaves, lightning, drought and extreme rainfall.
HSE COMAH Public Information and Register[46]	Identifies COMAH establishments, hazardous substance consent sites, fuel storage facilities, and hazardous installations that could affect the Proposed Development.
UK Civil Aviation Authority (CAA)[47]	Provides information on aviation safety regulations, airport safeguarding, emergency planning guidance and existing aviation risk management controls of relevance. Specifically, the SAFER platform[48] (Safety recommendations, Analysis, Follow-up, Evaluation and Reporting) that centralises and tracks the progress of Safety Recommendations (SRs) officially assigned to the CAA by state accident boards. This includes the Air Accidents Investigation Branch (AAIB) and the UK Airprox Board (UKAB). The SAFER text has been reviewed for current (at the time of writing) and available (through the platform) archived incidents to identify if there are any relevant MA&D hazards that should be scoped into the assessment.
Air Accidents Investigation Branch (AAIB)[49]	Provides evidence from historic aviation incidents and accidents that may assist in identifying credible accident scenarios and potential consequences.
National Grid and utility infrastructure mapping[50]	Identifies strategic energy, water and communications infrastructure that could contribute to, or be affected by a MA&D.
Heathrow Emergency Orders[51]	Provides information on airport emergency planning arrangements, response procedures, command structures and existing mitigation measures for aircraft accidents, fires, hazardous substance incidents, security incidents and other emergency scenarios.

[45] Met Office Climate Data Portal. Crown Copyright 2023. Available at: Met Office climate and severe weather data
[46] HSE Public Information on establishments subject to COMAH 2015. Available at: HSE COMAH Public Information and Register
[47] UK CAA – The UK's aerospace regulator. Available at: UK Civil Aviation Authority (CAA)
[48] UK CAA, SAFER Overview. Available at: SAFER overview | UK Civil Aviation Authority
[49] Air Accidents Investigation Branch (AAIB). Available at: Air Accidents Investigation Branch (AAIB)
[50] National Grid Electricity Distribution. 2026. Available at: National Grid and utility infrastructure mapping
[51] Heathrow Airport Limited. Operational Safety Instructions. Available at: Heathrow Emergency Orders

Source	Relevance to the Assessment
Relevant EIA topic chapters	Identify sensitive environmental receptors, population receptors, designated sites and environmental resources that could be affected by a MA&D event.

19.6 Baseline Conditions

19.6.1 Baseline Description

19.6.1.1 The baseline conditions relevant to the MA&D assessment have largely been informed by other topic chapters' baseline data collection given that this is a comprehensive review of the Proposed Development and various study area catchments.

Additional Baseline Information Required

19.6.1.2 No survey work specific to the MA&D assessment is proposed. The additional baseline information required for the assessment will be obtained, through a desk-based review of available information and, where necessary, consultation with relevant stakeholders. . This will include review of relevant London Resilience Partnership frameworks and plans, Heathrow emergency planning documents, COMAH external emergency plans, emergency service response arrangements and information from relevant local resilience forums, local authorities and emergency responders.

19.6.1.3 This information will be used to confirm the existing emergency planning, resilience and response arrangements relevant to the Proposed Development and the wider Heathrow and Greater London context. .

Receptors

19.6.1.4 As defined in the ISEP MA&D Primer, receptors are defined as features of the environment that are subject to assessment under Article 3 of the EIA Directive 2011/92/EU (as amended by Directive 2014/52/EU)[52], namely population and human health, biodiversity, land, soil, water, air and climate, material assets, cultural heritage and landscape.

19.6.1.5 For the purposes of the MA&D assessment, receptors have been grouped into human and non-human receptors to support a proportionate source-pathway-receptor assessment. Human receptors include the construction workforce, future operational workforce, airport passengers and visitors, existing Heathrow and airline workers, road and transport users, nearby residents and community receptors.

[52] European Parliament and Council Directive 2011/92/EU (as amended by Directive 2014/52/EU). Directive - 2011/92 - EN - EIA - EUR-Lex

19.6.1.6 This also includes vulnerable or sensitive human receptors that may experience direct or indirect effects from a MA&D event, such as schools, hospitals, care homes and other community facilities where access, emergency response, evacuation, service disruption, air quality, noise, smoke, contaminated runoff or wider disruption could affect users or occupants.

19.6.1.7 Non-human receptors include ecological designations, habitats, protected and notable species, freshwater and estuarine water habitats, groundwater, soils and sediments, built environment assets, cultural heritage assets, utilities, transport infrastructure and other major hazard or strategic infrastructure.

19.6.1.8 The list of receptors is presented in **Table 19-6** and illustrated in **Figure 19-4**.

Table 19-6: Receptors Relevant to MA&D

Receptor Type	Receptor	Receptor Detail
Designated land / water sites areas (nationally important)	Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs), Marine Conservation Zones (MCZs), Local Nature Reserves (LNRs), Local Wildlife Sites, priority habitats, habitat networks, water-dependent habitats.	• Cranebrook LNR; • Arthur Jacob Nature Reserve LNR; • Bedfont Lakes LNR; • Wraysbury Reservoir SSSI; • Wraysbury & Hythe End Gravel Pits SSSI; • Staines Moor SSSI; • Thorpe Hay Meadow SSSI; • Windsor Forest and Great Park SSSI; • Langham Pond SSSI; • Kempton Park Reservoirs SSSI; • Richmond Park NNR.
Designated land / water sites (internationally important)	Ramsar sites, Special Protection Areas (SPAs), Special Areas of Conservation (SACs), UNESCO Biosphere Reserves, internationally important wetlands and habitats supporting.	• South West London Waterbodies SPA/Ramsar; and • Windsor Forest and Great Park SAC.
Other designated land	Country parks, areas of local ecological importance, Green Belt, open access land, protected landscapes, community woodlands, recreational open space and green infrastructure corridors.	• Majority of the site is within Green Belt; • Cranford Countryside Park; • Colne Valley Regional Park; and • Harmondsworth Moor.
Scarce habitats	Priority habitats under Section 41 NERC Act, rare or locally uncommon habitats vulnerable to contamination, fire, flooding or physical disturbance. Examples include lowland meadows, floodplain grazing marsh, reedbeds, fens, wet woodland, ancient woodland, species-	Priority habitats recorded within the terrestrial ecology study area include: • Reedbeds and other swamp habitats associated with lakes and wetland margins; • Wet woodland;

Receptor Type	Receptor	Receptor Detail
	rich grassland, peatland habitats, priority ponds and veteran tree habitat.	• Chalk river habitats associated with the River Colne catchment and connected watercourses; • Areas of higher quality grassland, including NVC grasslands; • Ancient woodland located south-east of Richings Park Golf and Country Club; • Veteran tree resource comprising approximately 20 veteran trees and three notable trees; and • Waterbodies, ponds, ditches and associated marginal/inundation habitats which may qualify as priority habitats depending on condition and vegetation communities.
Widespread habitat (non-designated land and non-designated water)	Improved grassland, arable land, amenity grassland, plantation woodland, scrub, common hedgerows, urban greenspace, non-designated ponds, ditches and watercourses.	Study Area is mainly dominated by developed land associated with the airport and surrounding urban areas, however, widespread non-designated habitats remain throughout the wider landscape. These include improved and amenity grassland, arable farmland, plantation woodland, scrub, common hedgerows, urban greenspace, non-designated ponds, ditches and watercourses. These habitats provide ecological connectivity and support common and widespread species, although generally subject to varying degrees of management and urban influence.
Groundwater (drinking water and non-drinking water)	Principal aquifers, Secondary A and B aquifers, groundwater abstractions, Source Protection Zones (SPZs), public water supply boreholes,	Within the Countryside Stewardship Water Quality Priority Area The Heathrow area is underlain by superficial terrace gravels (Taplow Gravels), which form part of the

Receptor Type	Receptor	Receptor Detail
	private water supplies, groundwater-fed wetlands and springs.	Lower Thames Gravels groundwater body and are classified as a Principal Aquifer. A deeper Principal Chalk Aquifer is present beneath the London Clay. Groundwater abstractions, groundwater-dependent habitats and groundwater–surface water interactions associated with the Colne Valley represent sensitive receptors within the wider study area. Zone 3 SPZ located 3km south.
Soil or sediment (as a receptor rather than a pathway)	Agricultural land, contaminated land areas, topsoil resources, geological resources, mineral resources, river sediments, floodplain deposits and peat soils.	The Study Area is characterised by extensive areas of made ground associated with airport development, underlain by superficial river terrace deposits and London Clay Formation. Areas of agricultural soil resource remain within the wider Colne Valley, including around Harmondsworth, Longford and Sipson. The River Colne and associated tributaries contain floodplain and fluvial sediment deposits, which represent potential soil and sediment receptors. Significant peat resources are not identified within the Study Area.
Built environment (designated buildings / sites)	Existing airport terminals, runways and taxiways, air traffic control infrastructure, commercial and industrial premises, residential properties, schools, hospitals, utilities infrastructure, energy infrastructure, water treatment works, telecommunications infrastructure and transport infrastructure.	Roads - M25, M4, A4 Bath Road, A312, A30, A3113, Rail – Elizabeth Line, Piccadilly Line, Heathrow Express, Great Western Main Line, Western Rail Link safeguarding corridors, rail depots and supporting infrastructure Airport operational assets – existing runways, taxiways, aprons, terminal, air traffic control infrastructure, navigation aids, baggage systems, security infrastructure

Receptor Type	Receptor	Receptor Detail
		Fuel and Utilities infrastructure – aviation fuel storage, fuel hydrant networks, high pressure gas mains, national grid electricity infrastructure, electricity substations, water mains, wastewater infrastructure, and communications networks.
Protected and Notable Species	Protected bird populations, bats, otter, water vole, great crested newt (GCN), dormouse, badger, rare fish communities, notable invertebrates, reptiles and other legally protected or notable species.	Protected and notable species recorded within the desk study area include: • Bats, including Barbastelle (Barbastella barbastellus); • Otter; • Water vole; • Great crested newt; • Common amphibians; • Reptiles; • Badger; • Freshwater fish including European eel and European bullhead; • White-clawed crayfish; • Notable terrestrial invertebrates; and • Notable wetland and wading bird species associated with the South West London Waterbodies and surrounding habitats include lapwing, redshank and snipe.
Freshwater and estuarine water habitat	Rivers, streams, estuaries, canals, drainage channels, lakes, reservoirs, ponds, airport drainage systems, flood storage areas, wetlands, reedbeds, intertidal habitats, mudflats and saltmarshes.	The freshwater environment comprises an extensive network of rivers, channels, lakes, reservoirs, ponds and ditches including: • River Colne; • Wraysbury River;

Receptor Type	Receptor	Receptor Detail
		• Colne Brook; • River Thames; • Longford River; • Duke of Northumberland's River; • Frays River; • River Ash; • Horton Brook; • Datchet Common Brook; • Mill Stream; • Grand Union Canal; • Yeading Brook; • Staines Reservoir Aqueduct; and • Numerous lakes, reservoirs, gravel pits, ponds and drainage channels. These waterbodies support fish communities, aquatic macrophytes, aquatic macroinvertebrates, water vole, otter, amphibians and other aquatic biodiversity receptors.
Population and Human Health (PHH) - Proposed Development Receptors	Construction workforce, future operational workforce, users of new Proposed Development workforce and passengers.	People who may be directly or indirectly affected by the construction and operation of the Proposed Development through changes to health and safety, access, journey experience, amenity, and wellbeing.
PHH - Existing Heathrow Airport receptors	Existing airport passengers and visitors, existing Heathrow / airline operational workforce, existing airport infrastructure users, existing airport-related commercial receptors,	Users of local road network. People visiting and working at the airport and users / workers of aircraft.

Receptor Type	Receptor	Receptor Detail
PHH - Off-site third-party receptors	Nearby residents and community receptors. Schools, hospitals, care homes and other vulnerable receptors. Off-site commercial and industrial premises. Road, rail, pedestrian and cycle users. Recreational users of parks/open spaces.	• Harmondsworth Primary School; • The Eden School; • Lady Nafisa School; • Heathrow Primary School; • Cherry Lane Primary School; • St Catherine Catholic Primary School; • William Byrd Primary Academy and Green Corridor; • Ashford Hospital; • Hillingdon Hospital; • Occupants of residential areas, community premises and commercial / industrial premises.
Major Hazard and Strategic Infrastructure	COMAH establishments, fuel storage facilities, aviation fuel hydrant systems, pipelines, electricity substations, National Grid assets, gas infrastructure, strategic utility corridors, rail infrastructure, airports, ports, trunk roads and motorways.	COMAH Sites including: • Hayes (Lufthansa Technik Landing Gear Services UK Limited); • Heathrow Airport Perryoaks Fuel Terminal (Heathrow Hydrant Operating Company Limited); • Iver (Affinity Water Limited); • Sandringham Road Tank Fuel (Heathrow Hydrant Operating Company Limited); and • West London Fuels Terminal (Esso Petroleum Company Limited),

19.6.1.9 **Table 19-7** identifies the topic chapters and information sources that will be used to define and refine the receptor baseline for the MA&D assessment.

Table 19-7: Information Sources for Receptors

Type of Receptor	Receptor Information Location
Population and Human Health	**Chapter 10: Community**, **Chapter 12: Recreation** and **Chapter 14: Health**
Designated ecology sites (international, national and local designations)	**Chapter 6: Biodiversity** and **Chapter 7: Ornithology**
Groundwater	**Chapter 22: Water Environment**
Freshwater and estuarine water habitat	**Chapter 6: Biodiversity** and **Chapter 22: Water Environment**
Built environment and Cultural Heritage including designated buildings / sites)	**Chapter 13: Historic Environment**
Soil and sediment	**Chapter 16: Ground Conditions** and **Chapter 17: Agricultural Land and Soils**
Employees and visitors at Heathrow, including users and workers within the study area	**Chapter 10: Community** and **Chapter 11: Economics and Employment**
Users of the local road and transport network within the Scoping Boundary.	**Chapter 21: Traffic and Transport**

19.6.1.10 The list of receptors will be kept under review as more detailed information is provided through ongoing data collection in other topic areas including survey work and as the design of the Proposed Development develops.

19.7 Likely Significant Effects Requiring Assessment

Approach

19.7.1.1 The proposed scope and methodology for the MA&D assessment have been developed using professional judgement and with reference to relevant policy, guidance and legislation, baseline information and the current understanding of

the Proposed Development. The scope and methodology will be kept under review and refined, where necessary, as the design develops, further information becomes available and consultation progresses.

19.7.1.2 For the purposes of this assessment, likely significant effects are those MA&D scenarios, where, taking account of embedded mitigation, good practice measures, regulatory controls and emergency preparedness / response arrangements, the residual risk or consequence has the potential to remain intolerable or otherwise not capable of being adequately mitigated.

19.7.1.3 MA&D scenarios have therefore been scoped in where there is a credible source-pathway-receptor linkage and where further assessment is required to determine whether the potential effects can be prevented, reduced to a tolerable level, or managed through mitigation and response measures. Scenarios have only been scoped out where they are not reasonably foreseeable, where no credible pathway to an environmental receptor is identified, or where existing controls are sufficient to demonstrate that significant adverse effects are unlikely.

19.7.1.4 In accordance with the ISEP Primer:

"For a risk to arise there must be a hazard that consists of a 'source' (e.g. high rainfall); a 'receptor' (e.g. people, property, environment); and a pathway between the source and the receptor (e.g. flood routes)."

Table 19-8: Source-Pathway-Receptor Linkage (ISEP Primer)

Source	Pathway	Receptor
The original cause of the hazard, which has the potential to cause harm.	The route by which the source can reach the receptor.	The specific component of the environment that could be adversely affected if the source reaches it. Environmental receptor is specifically defined as: features of the environment that are subject to assessment under Article 3 of the EIA Directive 2011/92/EU (as amended by Directive 2014/52/EU), namely population and human health, biodiversity, land, soil, water, air and climate, material assets, cultural heritage and landscape.

19.7.1.5 As shown in Table 19-8, for a MA&D to put receptors at risk, there must be three components: a source, pathway and receptor. Some hazards will occur irrespective of the Proposed Development, such as weather based natural disasters, others may have an increased likelihood because of the nature of the Proposed Development, for example a transport-related accident. Consequently, the scoping assessment has been undertaken in the following stages:

- Establishment of existing baseline.

- Identification of potential MA&D by ringeview and compilating of a 'longlist' of potential MA&D (see Appendix 19.1 Longlist of MA&D) through reference to the National Risk Register of Civil Emergencies (Cabinet Office), London Risk Register and other data sources as listed in **Table 19-5**.
- Consideration of the potential for new or altered sources of MA&D relevant to the Proposed Development based on the description of development provided in **Chapter 2: The Proposed Development** of this Scoping Report and the understanding of proposed activities identified at this stage of the project over the construction, operational and decommissioning phases.
- Scope in or scope out the potential MA&D. MA&D that are deemed to be unlikely to result in significant effects have been scoped out and justification provided. MA&D that are considered likely to result in significant effects across any phase of the Proposed Development or, that require further analysis to determine whether they are likely to cause a significant effect, have been scoped in.

Sources of Major Accidents and Disasters

19.7.1.6 This Section identifies the broad sources of MA&D considered when compiling the longlist (**Appendix 19.1**). The purpose is not to provide a fixed or exhaustive list of risks, but to define the types of events that have been used to structure the risk review and populate the long list. Additional project-specific risks may be identified as the design, construction methodology, operational interfaces and consultation responses develop.

19.7.1.7 For the purposes of the longlist, sources of MA&D have been grouped into four broad categories: external major accidents, natural disasters, operational phase major accidents and construction phase major accidents as outlined in **Table 19-9**. These categories reflect the airport context of Heathrow, including existing aviation activities, airport safeguarding requirements, major transport and utility infrastructure, surrounding communities, environmental receptors and the scale of construction required to deliver the Proposed Development.

19.7.1.8 Decommissioning has also been considered at scoping stage as a potential phase during which MA&D risks could arise. However, given the nature of the Proposed Development as a long-term airport infrastructure, full decommissioning is not currently anticipated within the assessment period, and the details of the methods, timing and extent of any future decommissioning are not known at this stage.

19.7.1.9 Where decommissioning of the Proposed Development is required in the future, the associated MA&D risks are expected to be similar in nature to those identified for the construction phase. These risks would be managed through relevant legislation, good practice construction and demolition controls, environmental and

management plans, health and safety requirements, and emergency planning procedures in place at the time.

19.7.1.10 On this basis, decommissioning is not proposed to be assessed as a separate phase within the MA&D assessment.

19.7.1.11 In considering the potential consequences of MA&D scenarios, the assessment will have regard to both direct and indirect effects on receptors. Indirect effects may include impacts on off-site sensitive human receptors, including hospitals, schools, care homes, community facilities and transport users, where a credible pathway exists through smoke, airborne pollutants, evacuation, sheltering, access disruption, emergency response constraints, loss of utilities, contaminated runoff or wider operational disruption. Where a MA&D scenario has the potential to result in multiple casualties or fatalities, the assessment will also have regard to relevant emergency preparedness and response frameworks, including the London Mass Casualty Framework, London Fire Brigade consultation responses and the London Resilience Partnership Mass Fatality Framework, insofar as these are relevant to emergency service coordination, mutual aid, temporary mortuary capacity and humanitarian assistance arrangements.

Table 19-9: Overarching Sources of MA&D Considered in the Long List

Source Category	Typical Sources / Scenarios
External major accidents	Accidents not related to the Proposed Development (including HAL) aircraft accident or emergency; major road or rail incident; hazardous materials release from third-party activities; major fire or explosion at nearby premises; failure of off-site utility or fuel infrastructure; contamination (for example drinking water supply), security-related incident or malicious act; disease outbreak; cyber-attack; civil unrest or protest.
Natural disasters	Fluvial, surface water, groundwater or reservoir flooding; extreme rainfall; heatwave; drought; fog and reduced visibility events; lightning strikes; high winds, storm events and wind-blown debris; snow, ice or freezing conditions; ground instability; subsidence; seismic event; wildfire or vegetation fire; sea level rise; space weather including solar flares and radiation storms.
Operational phase major accidents	Aircraft ground movement incident; runway, taxiway or apron incident; fuel spill or leak, fire or explosion; loss of containment from storage, major utility failure; failure of critical airport systems; crowding or evacuation incident; loss of access for emergency services; bird strike; UXO.

Source Category	Typical Sources / Scenarios
Construction phase major accidents	Construction plant or lifting incident; excavation collapse; temporary works failure; fire or explosion; hazardous materials spill; pollution incident; strike of buried services; failure of temporary drainage or flood controls; major traffic incident involving construction vehicles; interface with live airport, highway, rail or utility assets; loss of access for emergency services.
Tunnelling and Underground works	Tunnel collapse or structural failure; ground settlement affecting buildings, runways, roads, railways or utilities; flooding or inundation of excavations and tunnels; pressurised face failure; fire, explosion or smoke incident within a tunnel; hazardous gas ingress or oxygen deficiency; failure of ventilation, power or life-safety systems; entrapment of workers; strike of buried utilities or fuel pipelines; groundwater contamination; uncontrolled release of contaminated ground or groundwater; interface incidents with existing transport, airport or utility infrastructure; loss of emergency access or evacuation routes.

19.7.1.12 A conservative approach will be undertaken to the inclusion of the phases of aircraft movements within the assessment. Any aircraft that is under the control of the Proposed Development air traffic controllers or an aircraft on the ground are included in the scope of the assessment. **Table 19-10** outlines the certain phases of flight incorporated in the assessment using International Civil Aviation Organisation (ICAO) terminology[53]. These represent the phases that could give rise to air traffic specific effects relevant to MA&D.

Table 19-10: Phases of Flight to be Considered at the Proposed Development within Assessment

Phase of Flight	Included	Reasoning
Standing	Yes	If departing from or landing at the Proposed Development
Pushback / towing	Yes	If departing from or landing at the Proposed Development
Taxiing	Yes	If departing from or landing at the Proposed Development
Take off and initial climb	Yes	If departing from the Proposed Development

[53] ICAO Glossary of Terms – ICAO Data Plus. Available at: International Civil Aviation Organisation (ICAO) terminology

Phase of Flight	Included	Reasoning
En route	No	Unless aircraft intending to land at the Proposed Development within a holding pattern while under the control of the Proposed Development.
Approaching	Yes	If landing at the Proposed Development
Landing	Yes	If landing at the Proposed Development
Emergency descent	Yes	If under the control of the Proposed Development
Manoeuvring (Low altitude excluding take off and landing / aerobatic flight operations)	No	Not anticipated at the Proposed Development as it relates to aerobatic flight operations or low altitude flying which is not related to a take-off or landing expected at the Proposed Development
Uncontrolled descent	No	Unless under the control of the Proposed Development
Post-impact	Not applicable	Not considered a flight stage. Used primarily in incident reporting.

19.7.1.13 Alongside the above phases of flight considerations, the UK CAA Key Risk Area (KRA)[54] model has been considered to ensure that the 2026-28 ICAO's GASP identified list of global operational High-Risk Categories of occurrences (G-HRC) has been addressed. The G-HRC is based on common accidents and serious incidents; which represent unsafe outcomes, or 'end states' that need to be avoided to prevent fatalities.

19.7.1.14 The UK CAA KRA are:

- Terrain & Obstacle Collision : Controlled Flight (or trajectory) Into Terrain (CFIT) (including water), or an obstacle, by an aircraft/ spacecraft that is under control.
- Loss Of Control In-Flight : Aircraft or spacecraft deviates from intended flight path/trajectory, potentially leading to an uncontrolled collision with other aircraft/spacecraft or terrain.
- Airborne Conflict: Loss of separation between aircraft and/or spacecraft, potentially leading to Mid-Air Collision.

[54] UK CAA United Kingdom Main National Aviation Safety Plan (NASP) 2026-2029. CAP3237 Version date 23 April 2026. Available at: UK CAA National Aviation Safety Plan

- Runway Excursion: Incorrect speed/directional control on departure or recovery, potentially leading to accidents and serious incidents either on or off the Runway (includes all departure/recovery areas or platforms), including collisions with aircraft, spacecraft, vehicles, pedestrians, and accidental contact with terrain, water, or other obstacles.
- Runway Incursion: Loss of separation between aircraft, spacecraft, with other aircraft/spacecraft, vehicles or pedestrians on the Runway (includes all departure/recovery areas or platforms), potentially leading to a collision.
- Aircraft Environment: Potentially leading to any event inside the physical environment of an aircraft or spacecraft that could endanger life, e.g. fire, smoke, fumes, pressurisation, extreme temperature.
- Ground Safety: Non-Runway loss of separation between aircraft, spacecraft, with other aircraft/spacecraft, vehicles or pedestrians, potentially leading to a collision.

Table 19-11: Relationship between Aviation Safety Risk Areas and MA&D Consequence Pathways

UK CAA Key Risk Area (KRA)	Relevant Phase of Flight	Potential Consequence Pathways relating to MA&D
Terrain and Obstacle Collision	Departure, climb, descent, approach, landing	Aircraft impact event; debris dispersion; fire and explosion; release of fuel or hazardous materials; damage to infrastructure; injury or fatality; disruption to airport operations and transport networks.
Loss of Control In-Flight	Departure, climb, cruise, descent, approach	Aircraft impact event; debris dispersion; fire and explosion; release of fuel or hazardous materials; damage to environmental receptors; injury or fatality; disruption to airport operations and transport networks.

UK CAA Key Risk Area (KRA)	Relevant Phase of Flight	Potential Consequence Pathways relating to MA&D
Airborne Conflict	Climb, cruise, descent, approach	Aircraft impact event; debris dispersion; fire and explosion; injury or fatality; disruption to airport operations and surrounding transport infrastructure.
Runway Excursion	Take-Off, Landing	Aircraft impact event; fire and explosion; fuel release; damage to airport infrastructure; injury or fatality; operational disruption.
Runway Incursion	Take-off, landing, ground operations	Collision event; fire and explosion; fuel release; infrastructure damage; injury or fatality; operational disruption.
Aircraft Environment	All phases of flight and aircraft ground operations	Fire; smoke; explosion; debris dispersion; injury or fatality; disruption to airport operations and surrounding transport infrastructure, hazardous materials release; evacuation; operational disruption.
Ground Safety	Taxiing, stand operations, maintenance activities	Collision event; fire and explosion; fuel or hazardous materials release; environmental contamination; injury or fatality; disruption to airport operations.

19.7.1.15 Whilst the UK CAA KRAs identify a range of distinct aviation safety risk categories, the environmental consequences arising from these events are generally comparable. For example, risks associated with Terrain and Obstacle Collision, Loss of Control In-Flight, Airborne Conflict , Runway Excursion and Runway Incursion may originate from different causes and occur during different phases of

flight but can ultimately result in similar consequence pathways including aircraft impact events, fire and explosion, fuel or hazardous material release, damage to infrastructure, injury or loss of life, and disruption to airport and transport operations.

19.7.1.16 The MA&D assessment is therefore focused on the environmental consequences associated with aviation-related accidents and incidents rather than assessing each aviation safety risk category independently. This approach avoids duplication whilst ensuring that all relevant aviation risks identified through the ICAO GASP, NASP and KRSa are captured within the assessment framework.

19.7.1.17 For the purposes of the MA&D assessment, aviation-related hazards will be considered in terms of their potential to give rise to:

- Aircraft impact events affecting the Proposed Development, surrounding communities, environmental receptors or strategic infrastructure;
- Fire and explosion events resulting from aircraft accidents, fuel-related incidents or associated infrastructure failures;
- Releases of fuel, hazardous substances or firefighting contaminants that could affect land, groundwater, surface water or ecological receptors;
- Damage to critical airport, transport, utility and communications infrastructure;
- Disruption to airport operations, emergency response arrangements and wider transport networks; and
- Injury or loss of life affecting airport users, workers, nearby communities or emergency responders.

19.7.1.18 The assessment will therefore consider the full range of aviation accident scenarios identified through the UK CAA and ICAO safety frameworks, while focusing the evaluation on the consequence pathways that could result in significant environmental effects.

19.7.1.19 The assessment will consider MA&D scenarios that are reasonably foreseeable and relevant to the Proposed Development. For each such scenario, the reasonable worst-case event and its potential consequences will be assessed, taking account of the available evidence, the characteristics and design of the Proposed Development, relevant guidance and professional judgement. Scenarios will only be excluded where there is no credible source–pathway–receptor linkage, the potential consequences would not meet the definition of a MA&D, or the likelihood of occurrence is so remote that the scenario is not considered reasonably foreseeable. For example, earthquakes and seismic hazards are not considered a credible risk at the Site, given the low level of seismic activity in the UK and are therefore not proposed to be assessed further.

19.7.1.20 Potential construction-related MA&D effects that may require assessment include:

- External aviation-related accidents;
- Major fires and explosions arising from construction-related incidents;
- Hazardous materials incidents;
- Transport-related accidents;
- Utility infrastructure strikes and failures;
- Major pollution incidents; and
- Vulnerability to extreme weather events.

19.7.1.21 Potential operational MA&D effects that may require assessment include:

- Proposed Development and external aviation-related accidents;
- Fuel storage and distribution incidents;
- Utility failures;
- Major fires and explosions;
- Flooding and severe weather events;
- Hazardous substance releases; and
- Transport infrastructure incidents.

19.7.1.22 Potential MA&D associated with the construction and operational phases of the Proposed Development that have been identified as requiring further assessment to determine if they result in likely significant effects are presented in **Table 19-12**. Further information on potential MA&D can be found in **Appendix 19.1: MA&D Long List**.

Table 19-12: Potential MA&D Effects Requiring Assessment

Potential MA&D Conducive Conditions (Source)	Potential MA&D Pathway	Receptors	Potential Effects
Construction			
High Temperatures, Heatwaves and Drought	High temperatures / heatwaves cause critical infrastructure to buckle as materials, electrical grids, and cooling systems are pushed past their thermal thresholds High temperatures / heat waves create an inhospitable work environment Drought reducing water, resulting in foundation instability and potential building or asset failure, and / or insufficient firewater supply to support effective fire suppression.	PHH Proposed Development Receptors PHH Existing Heathrow Airport Receptors PHH Off-site third-party receptors Built environment (designated buildings / sites) Groundwater (drinking water and non-drinking water) Soil or sediment (as a receptor rather than a pathway) Major Hazard and Strategic Infrastructure	Heat stress, heat exhaustion or injury to construction workers and others working within or adjacent to the Proposed Development. Damage to construction plant, equipment, temporary works or partially completed assets due to overheating. Reduced groundwater levels may cause ground shrinkage, settlement or stability issues, with potential structural damage or collapse. Reduced firewater availability may increase the consequences of a fire event. Indirect effects may include disruption to construction activities, existing airport operations, utility systems, emergency response capability and off-site receptors where service disruption, access constraints or heat-related operational disruption occur.
Wildfires (In proximity to or directly affecting the Site)	Fire risk to structures under construction and construction vehicles, equipment on site Smoke / airborne pollutants affecting the Site Potential for release of hazardous substances that migrate to the Site Potential for loss of utilities services	PHH Proposed Development Receptors PHH Existing Heathrow Airport Receptors PHH Off-site third-party receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure Soil or sediment (as a receptor rather than a pathway) Scarce habitats Protected and notable species, where credible	Smoke inhalation and potential for injuries or fatalities amongst construction workers and existing operational airport workforce and passengers Damage to construction equipment, existing airport infrastructure. Reduced visibility due to smoke. Indirect effects may include evacuation, access disruption, delayed emergency response, loss of utilities, contaminated firewater runoff with potential effects on groundwater, soil and protected species
Snow and icy conditions	Snow accumulation on runways, taxiways and aprons causing reduced surface friction Reduced visibility for aircraft and ground vehicle movements Ice accumulation on aircraft surfaces and critical equipment Reduced traction and unsafe pedestrian conditions	PHH Proposed Development Receptors PHH Existing Heathrow Airport Receptors PHH Off-site third-party receptors Built environment (designated buildings / sites) Freshwater and estuarine water habitat Groundwater (drinking water and non-drinking water)	Runway excursions, aircraft collisions, operational disruption, injuries or fatalities, infrastructure damage Hypothermia of construction workers Construction machinery failure Increased collision risk, delayed or cancelled flights, operational disruption, injuries or fatalities Road traffic accidents, slips, trips and falls and restricted site access Asset damage, structural failure, service disruption, safety risks

Potential MA&D Conducive Conditions (Source)	Potential MA&D Pathway	Receptors	Potential Effects
	Contaminated runoff entering drainage systems and receiving waters Physical loading and icing of buildings, lighting, signage and airside infrastructure	Soil or sediment (as a receptor rather than a pathway)	Indirect effects may include delayed emergency response, obstruction to access routes.
Strong winds, tornadoes and hurricanes	High wind speeds or extreme storm conditions causing instability of cranes, scaffolding, temporary works, partially constructed structures, wind-blown debris, disruption to safe lifting operations, site access or airport operations.	PHH Proposed Development Receptors PHH Existing Heathrow Airport Receptors PHH Off-site third-party receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure	Injury or fatality to construction workers, airport workers, airport users and off-site receptors from wind-blown debris, crane instability, scaffold failure, temporary works failure or collapse of partially constructed structures. Damage to construction plant, equipment, temporary works, partially constructed assets, airport infrastructure, utilities, vehicles and property. Indirect effects may include obstruction of site access and emergency access routes, disruption to lifting operations, interruption to construction activities, disruption to airport operations and delayed emergency response
Extreme rainfall and subsequent flooding	Giving rise to structural failure, waterborne debris, failure of hazardous materials storage (e.g. containment failure and bund overtopping).	PHH - Proposed Development Receptors PHH - Existing Heathrow Airport receptors PHH - Off-site third-party receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure Freshwater and estuarine water habitat Groundwater (drinking water and non-drinking water) Soil or sediment (as a receptor rather than a pathway) Designated land / water sites areas (nationally important) Designated land / water sites (internationally important) Other designated land Scarce habitats Widespread habitat (non-designated land and non-designated water) Protected and Notable Species	Injury/fatalities Damage to construction equipment Release of contaminants into the environment Damage to existing airport infrastructure and equipment affecting airport operations Contamination of groundwater due to infiltration of contaminated floodwater, runoff, hazardous substances, fuels, oils or firewater. Indirect effects may include restricted site access, obstruction of local roads, delayed emergency response, interruption to airport operations, disruption to utilities.

Potential MA&D Conducive Conditions (Source)	Potential MA&D Pathway	Receptors	Potential Effects
Lightning	Direct lightning strike to cranes, scaffolding, plant, exposed personnel or airport infrastructure Electrical surge affecting power, communications, navigation control or safety systems Ignition of flammable materials or fuel resulting in fire or explosion.	PHH - Proposed Development Receptors PHH - Existing Heathrow Airport receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure	Injury / fatality to construction workers, airport workers or airport users Fire or explosion arising from ignition of flammable materials or fuel. Damage to equipment or infrastructure, disruption to power Indirect effects may include disruption to power, airport operations, communications and emergency response capability.
Fire and / or explosion at construction site	Ignition of flammable materials, fuel or hazardous substances resulting in fire and / or explosion, smoke, firewater runoff, structural damage.	PHH - Proposed Development Receptors PHH - Existing Heathrow Airport receptors PHH - Off-site third-party receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure Designated land / water sites areas (nationally and internationally important) Other designated land Scarce habitats Widespread habitat Protected and Notable Species Freshwater and estuarine water habitat Groundwater Soil or Sediment	Damage to construction equipment and injury or fatality of construction personnel Increased risk of injury or fatality of the users and workers at the existing airport Damage to existing airport infrastructure Reduced visibility due to smoke from fire, affecting aircraft operations Damage/loss of property and risk of injury or fatality to the general public Indirect effects on human health, property, heritage assets and wildlife due to smoke and ash deposition.
Onsite-hazardous substances	Leaks or spillages of hazardous substances with risk of contact, inhalation, fire / explosion and / or migration via surface water drainage, ground infiltration or contamination runoff; for example, a major diesel, fuel, oil, solvent or construction chemical spill from temporary storage, refuelling, plant maintenance or tanker delivery failure.	PHH - Proposed Development Receptors PHH - Existing Heathrow Airport receptors PHH - Off-site third-party receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure Designated land / water sites areas (nationally and internationally important) Other designated land	Exposure, injury or fatality affecting construction workers, airport users, airport workers and off-site receptors through contact, inhalation, fire or explosion. Contamination of freshwater, estuarine water, groundwater, soil and sediment through spills, runoff, infiltration or migration via drainage systems. Indirect effects may include impacts on designated sites, habitats and protected species, damage to property or infrastructure, loss of utility services, restricted access, delayed emergency response, operational disruption and secondary fire or explosion risk

Potential MA&D Conducive Conditions (Source)	Potential MA&D Pathway	Receptors	Potential Effects
		Scarce habitats Widespread habitat Protected and Notable Species Freshwater and estuarine water habitat Groundwater Soil or sediment	
Loss of utilities	Damage to, diversion of, or failure of utility infrastructure, including power, gas, water, drainage, fuel, telecommunications or data services, due to excavation, piling, service strikes, temporary works, flooding, fire, extreme weather or third-party network failure; resulting in disruption to construction activities, airport operations, environmental controls, communications, safety systems or emergency response capability.	PHH - Proposed Development Receptors PHH - Existing Heathrow Airport receptors PHH - Off-site third-party receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure Freshwater and estuarine water habitat Groundwater (drinking water and non-drinking water) Soil or sediment (as a receptor rather than a pathway)	Disruption to construction activities, existing airport operations, communications, safety-critical systems, drainage, fuel systems, environmental controls, fire suppression and emergency response capability. Indirect effects may include disruption to off-site properties, businesses, community facilities, schools, hospitals, care homes and transport users where utility outage affects access, welfare, public safety, communications or service continuity. Loss of utilities may also increase the likelihood or consequences of secondary MA&D events where safety-critical, pollution prevention, drainage, firewater, ventilation, lighting, security or emergency response systems are affected.
Traffic Incidents	Interaction between construction vehicles, staff vehicles, delivery vehicles, abnormal loads, pedestrians, cyclists and users of the local road network, including through temporary traffic management, haul routes, Site access and egress points, reduced visibility, driver error; potentially resulting in vehicle collisions, pedestrian / vehicle conflict, obstruction of access, delayed emergency response or release of fuel or hazardous materials from damaged vehicles.	PHH - Proposed Development Receptors PHH - Existing Heathrow Airport receptors PHH - Off-site third-party receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure Freshwater and estuarine water habitat Groundwater (drinking water and non-drinking water) Soil or sediment (as a receptor rather than a pathway)	Injury or fatality to construction workers, airport users, airport workers, road users, pedestrians and cyclists. Damage to vehicles, property, highway infrastructure, airport infrastructure or strategic infrastructure. Indirect effects may include obstruction of site access, local roads, airport access roads or emergency access routes, delayed emergency response, congestion-related disruption to airport operations, and disruption to off-site sensitive receptors including schools, healthcare facilities, care homes and community facilities. Vehicle damage may also result in release of fuel, oils or hazardous substances, with potential effects on drainage systems, freshwater, groundwater, soil or sediment receptors.
Accidents resulting from interface with current airport operations and	Interface between live airport operations and construction activities, including works near airside areas, taxiways, aprons, service roads, restricted zones, utilities or emergency access routes; potentially resulting in conflict between	PHH - Proposed Development Receptors PHH - Existing Heathrow Airport receptors Built environment (designated buildings / sites)	Disruption to airport operations Aircraft accident Fatality or injury of aircraft passengers, airport users and workers, and construction workers

Potential MA&D Conducive Conditions (Source)	Potential MA&D Pathway	Receptors	Potential Effects
construction activities	construction plant, personnel, temporary works, airport operational vehicles, aircraft ground movements or safety-critical infrastructure, leading to collision, incursion, obstruction, infrastructure damage, operational disruption or delayed emergency response.	Major Hazard and Strategic Infrastructure	Damage to existing airport infrastructure and construction equipment Indirect effects may include disruption to airport operations, restricted access, emergency response constraints, evacuation requirements and wider effects on transport users and off-site receptors where operational disruption extends beyond the Site.
Fire at a neighbouring site	Falling debris, fire, smoke/airborne pollutants, release of hazardous substances or loss of utilities services that effect on site receptors.	PHH - Proposed Development Receptors PHH - Existing Heathrow Airport receptors PHH - Off-site third-party receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure Designated land / water sites areas (nationally and internationally important) Other designated land Scarce habitats Widespread habitat Protected and Notable Species Freshwater and estuarine water habitat Groundwater Soil or sediment	Damage to construction equipment and injury or fatality of construction personnel Increased risk of injury or fatality of the users and workers at the existing airport Damage to existing airport infrastructure Reduced visibility due to smoke from fire, affecting aircraft operations Damage / loss of property and risk of injury or fatality to the general public Indirect effects may include smoke exposure, air quality deterioration, evacuation, shelter-in-place requirements, access disruption, delayed emergency response, loss of utilities, ash deposition, contaminated firewater runoff and hazardous substance migration, with potential effects on water, groundwater, soil, sediment, ecological receptors and designated sites where a credible pathway exists.
Explosion or structural collapse at neighbouring site	Blast overpressure, structural instability, falling debris, ground vibration, dust, smoke, airborne pollutants, release of hazardous substances, fire spread or loss of utilities from an incident at a neighbouring site affecting construction areas, airport infrastructure, access routes or sensitive environmental receptors.	PHH - Proposed Development Receptors PHH - Existing Heathrow Airport receptors PHH - Off-site third-party receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure Freshwater and estuarine water habitat Groundwater (drinking water and non-drinking water) Soil or sediment (as a receptor rather than a pathway) Protected and Notable Species	Injury or fatality to construction workers, airport users, airport workers and the general public from blast overpressure, falling debris, structural instability, dust, smoke or fire spread. Damage to construction works, construction equipment, airport infrastructure, property, heritage assets, utilities and strategic infrastructure. Indirect effects may include access disruption, delayed emergency response, utility failure, operational disruption, contaminated runoff, hazardous substance release, dust deposition, smoke exposure and effects on water, groundwater, soil, sediment, habitats and protected species where a credible pathway exists.

Potential MA&D Conducive Conditions (Source)	Potential MA&D Pathway	Receptors	Potential Effects
		Scarce habitats Widespread habitat (non-designated land and non-designated water)	
Operation			
Bird Strike	Bird activity associated with existing or altered habitats, waterbodies, drainage features, landscaping, waste management, lighting or operational areas attracting birds into proximity with aircraft movements. Bird strike during taxiing, take-off, landing, approach or initial climb could result in aircraft damage, engine ingestion, aborted take-off, emergency landing, runway closure or secondary incident.	PHH - Proposed Development Receptors PHH - Existing Heathrow Airport receptors PHH - Off-site third-party receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure Protected and notable species Freshwater and estuarine water habitat Groundwater (drinking water and non-drinking water) Soil or sediment (as a receptor rather than a pathway)	Direct effects may include injury or fatality to aircraft occupants, aircraft users, airport workers where bird strike results in aircraft damage, loss of control, aircraft collision, fire, fuel release. Indirect effects may include runway closure, operational disruption, disruption to transport networks.
High Temperatures, Heatwaves and Drought	High temperatures and heatwaves causing overheating of airport buildings, plant, operational equipment, passenger areas and critical systems.	PHH - Existing Heathrow Airport receptors PHH - Proposed Development Receptors Built environment (designated buildings / sites) Groundwater (drinking water and non-drinking water) Soil or sediment (as a receptor rather than a pathway)	Heat exhaustion to airport personnel and passengers Overheating of buildings and equipment Damage to airport buildings and equipment Reduced visibility as result of dust Reduced groundwater levels causing ground shrinkage, settlement or stability issues, with potential structural damage or collapse. Reduced firewater availability, potentially increasing the consequence of a fire event.

Potential MA&D Conducive Conditions (Source)	Potential MA&D Pathway	Receptors	Potential Effects
		Major Hazard and Strategic Infrastructure	Indirect effects may include disruption to airport operations, passenger processing, emergency response, utility services and off-site receptors where service disruption, access constraints or heat-related operational disruption affect wider communities or sensitive facilities.
Wildfires	Fire risk to infrastructure Smoke / airborne pollutants affecting the Site Potential for release of hazardous substances that migrate to the Site Potential for loss of utilities services	PHH - Existing Heathrow Airport receptors PHH - Proposed Development Receptors PHH - Off-site third-party receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure Designated land / water sites areas (nationally important) Designated land / water sites (internationally important) Other designated land Scarce habitats Widespread habitat (non-designated land and non-designated water) Protected and Notable Species Freshwater and estuarine water habitat Groundwater (drinking water and non-drinking water) Soil or sediment (as a receptor rather than a pathway)	Fatality or injury to airport users or workers Smoke inhalation Damage to airport buildings and equipment Reduced visibility as result of smoke Indirect effects may include air quality deterioration, evacuation, access restrictions, delayed emergency response, loss of utilities, airport operational disruption, ash deposition, contaminated firewater runoff and mobilisation of hazardous substances, with potential effects on water, groundwater, soil, sediment, habitats, protected species and designated sites where a credible pathway exists.
Snow and icy conditions	Snow accumulation on runways, taxiways and aprons causing reduced surface friction Reduced visibility for aircraft and ground vehicle movements Ice accumulation on aircraft surfaces and critical equipment Reduced traction and unsafe pedestrian conditions	PHH - Existing Heathrow Airport receptors PHH - Proposed Development Receptors PHH - Off-site third-party receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure Freshwater and estuarine water habitat Groundwater (drinking water and non-drinking water)	Aircraft accident Fatality or injury to airport users or workers Road traffic incident at the airport Damage to buildings, lighting, signage, airside equipment, utilities, runways, taxiways, aprons and other operational infrastructure. Indirect effects may include delayed or cancelled flights, airport operational disruption, restricted access, delayed emergency response, disruption to public transport and road networks, and contaminated runoff from de-icing

Potential MA&D Conducive Conditions (Source)	Potential MA&D Pathway	Receptors	Potential Effects
	Contaminated runoff entering drainage systems and receiving waters Physical loading and icing of buildings, lighting, signage and airside infrastructure	Soil or sediment (as a receptor rather than a pathway)	materials or sediments affecting drainage systems, freshwater, groundwater, soil or sediment receptors.
Strong winds and tornadoes and hurricanes	High wind speeds or extreme storm conditions causing damage or instability to airport buildings, aircraft on stands, signage, lighting, airside equipment, external fixtures or other operational infrastructure; wind-blown debris affecting runways, taxiways, aprons, roads or pedestrian routes; and disruption to aircraft movements, safe access, emergency response or airport operations.	PHH - Existing Heathrow Airport receptors PHH - Proposed Development Receptors PHH - Off-site third-party receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure	Aircraft accident Fatality or injury to airport users or workers Damage to airport infrastructure Indirect effects may include wind-blown debris obstructing runways, taxiways, aprons, roads or pedestrian routes, disruption to aircraft movements, restricted access, evacuation or sheltering requirements, delayed emergency response and wider airport or transport operational disruption
Extreme rainfall and subsequent flooding	Giving rise to structural failure, waterborne debris, failure of hazardous materials storage (e.g. containment failure and bund overtopping).	PHH - Existing Heathrow Airport receptors PHH - Proposed Development Receptors PHH - Off-site third-party receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure Freshwater and estuarine water habitat Groundwater (drinking water and non-drinking water) Soil or sediment (as a receptor rather than a pathway) Designated land / water sites areas (nationally important) Designated land / water sites (internationally important) Scarce habitats Widespread habitat (non-designated land and non-designated water) Protected and Notable Species	Damage to airport infrastructure Release of contaminants into sensitive environmental receptors Fatality or injury to airport users or workers Indirect effects may include airport operational disruption, loss of utilities, restricted access, road and rail disruption, delayed emergency response, evacuation, and contamination of freshwater, estuarine water, groundwater, soil, sediment, habitats, protected species and designated sites.
Fire and / or explosion	Ignition of flammable materials, fuel or hazardous substances resulting in fire and / or	PHH - Existing Heathrow Airport receptors	Fatality or injury to airport users or workers

Potential MA&D Conducive Conditions (Source)	Potential MA&D Pathway	Receptors	Potential Effects
	explosion, smoke, firewater runoff, structural damage.	PHH - Proposed Development Receptors PHH - Off-site third-party receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure Freshwater and estuarine water habitat Groundwater (drinking water and non-drinking water) Soil or sediment (as a receptor rather than a pathway) Protected and Notable Species	Aircraft incident Damage to airport infrastructure Reduced visibility as result of smoke Indirect effects may include evacuation, access restrictions, delayed emergency response, disruption to airport operations, air quality deterioration, smoke and ash deposition, contaminated firewater runoff, fuel or hazardous substance release and effects on freshwater, groundwater, soil, sediment, habitats and protected species.
Leaks or spillages of hazardous substances	Loss of containment, leaks or spillages of fuels, oils, de-icing chemicals, firefighting foams, gases, hazardous substances or other operational materials from storage, transfer, refuelling, aircraft servicing, maintenance activities, tanker failure or drainage system failure; potentially resulting in contact, inhalation, fire / explosion, ground infiltration, migration through drainage systems or contaminated runoff to environmental receptors.	PHH - Existing Heathrow Airport receptors PHH - Proposed Development Receptors PHH - Off-site third-party receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure Designated land / water sites areas (nationally important) Designated land / water sites (internationally important) Other designated land Scarce habitats Widespread habitat (non-designated land and non-designated water) Protected and Notable Species Freshwater and estuarine water habitat Groundwater (drinking water and non-drinking water) Soil or sediment (as a receptor rather than a pathway)	Contamination of sensitive environmental receptors Fatality or injury to airport users or workers Indirect effects may include impacts on designated sites, habitats and protected species, disruption to airport operations, restrictions on access, delayed emergency response, loss of utility or drainage function, secondary fire or explosion risk and wider effects on off-site receptors where contamination or service disruption extends beyond the Site.

Potential MA&D Conducive Conditions (Source)	Potential MA&D Pathway	Receptors	Potential Effects
Loss of utilities	Failure, damage or outage affecting power, gas, water, drainage, fuel, telecommunications, data or control systems due to asset failure, network failure, maintenance activities, flooding, fire, extreme weather, cyber incident or third-party supply interruption; resulting in disruption to airport operations, environmental controls, communications, security, passenger processing, safety-critical systems or emergency response capability.	PHH - Existing Heathrow Airport receptors PHH - Proposed Development Receptors PHH - Off-site third-party receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure Freshwater and estuarine water habitat Groundwater (drinking water and non-drinking water) Soil or sediment (as a receptor rather than a pathway)	Interruption of existing airport operations, communications, security systems, passenger processing, baggage handling, emergency response capability causing further MA&Ds Indirect effects may include disruption to off-site properties, businesses, community facilities, schools, hospitals, care homes and transport users where utility outage affects access, welfare, public safety, communications or service continuity. Loss of utilities may increase the likelihood or consequences of secondary MA&D events where safety-critical or emergency response systems are affected.
Traffic Incidents	Interaction between airport operational vehicles, staff vehicles, passenger vehicles, buses, taxis, delivery vehicles, pedestrians, cyclists and users of the local road network, including through airport access roads, car parks, service roads, drop-off areas, junctions, congestion, queuing, reduced visibility or driver error; potentially resulting in vehicle collisions, pedestrian / vehicle conflict, obstruction of access, delayed emergency response or release of fuel or hazardous materials from damaged vehicles.	PHH - Existing Heathrow Airport receptors PHH - Proposed Development Receptors PHH - Off-site third-party receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure Freshwater and estuarine water habitat Groundwater (drinking water and non-drinking water) Soil or sediment (as a receptor rather than a pathway)	Fatality or injury to airport users or workers Damage to airport infrastructure Indirect effects may include obstruction of airport access roads, local roads or emergency access routes, delayed emergency response, congestion, disruption to bus/taxi/service vehicle operations, and effects on off-site sensitive receptors including schools, healthcare facilities, care homes and community facilities. Vehicle damage may also result in release of fuel, oils or hazardous substances, with potential effects on drainage systems, freshwater, groundwater, soil or sediment receptors.
Aircraft accidents	Aircraft accident associated with standing, taxiing, take-off, initial climb, approach, landing or emergency descent, including runway excursion, runway incursion, aircraft collision, hard landing, aircraft fire, fuel spill, debris generation or impact with airport infrastructure, vehicles, personnel or neighbouring receptors.	PHH - Existing Heathrow Airport receptors PHH - Proposed Development Receptors PHH - Off-site third-party receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure Freshwater and estuarine water habitat Groundwater (drinking water and non-drinking water) Soil or sediment (as a receptor rather than a pathway)	Fatality or injury to airport users or workers Damage to airport infrastructure Indirect effects may include fire, explosion, smoke, debris dispersion, fuel release, hazardous substance release, contaminated firewater runoff, evacuation, access restrictions, delayed emergency response, wider airport and transport operational disruption and contamination of freshwater, groundwater, soil, sediment, habitats, protected species and designated sites where a credible pathway exists

Potential MA&D Conducive Conditions (Source)	Potential MA&D Pathway	Receptors	Potential Effects
		Designated land / water sites areas (nationally important) Designated land / water sites (internationally important) Protected and Notable Species	
Emergency response activities implemented on the Main Application Site impacting on sensitive receptors	Emergency response activities, including firefighting, rescue, evacuation, containment, traffic management and emergency access arrangements, resulting in disturbance, access restrictions, contaminated runoff or indirect effects on nearby sensitive receptors.	PHH - Existing Heathrow Airport receptors PHH - Proposed Development Receptors PHH - Off-site third-party receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure Freshwater and estuarine water habitat Groundwater (drinking water and non-drinking water) Soil or sediment (as a receptor rather than a pathway) Designated land / water sites areas (nationally important) Designated land / water sites (internationally important) Scarce habitats Widespread habitat (non-designated land and non-designated water) Protected and Notable Species	Fatality or injury to airport users or workers Damage to airport infrastructure Indirect effects on airport users, workers, Proposed Development users, emergency responders and off-site receptors through evacuation, sheltering, access restrictions, road closures, traffic management, emergency service disruption, disturbance, temporary loss of access or delayed response. Potential effects on schools, hospitals, care homes, community facilities, transport users and nearby residents where emergency response arrangements affect access, service continuity or public safety. Potential environmental effects may arise from firefighting foams, firewater runoff, containment works, pollution control measures, disturbance or physical intervention affecting freshwater, groundwater, soil, sediment, habitats, protected species or designated sites.
Structural Collapse	Failure or collapse of airport buildings, bridges, tunnels, airside infrastructure due to design failure, deterioration, impact, fire, explosion, flooding, groundwater movement, extreme weather.	PHH - Existing Heathrow Airport receptors PHH - Proposed Development Receptors PHH - Off-site third-party receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure Soil or sediment (as a receptor rather than a pathway)	Injury or fatality to airport users, workers, Proposed Development users and off-site receptors. Loss of, or damage to, airport buildings, bridges, tunnels, airside infrastructure, utilities, property, heritage assets and strategic infrastructure. Indirect effects may include disruption to airport operations, obstruction of access routes, loss of utilities, delayed emergency response, evacuation, service disruption and potential secondary MA&D events including fire, explosion, flooding or hazardous substance release.

Potential MA&D Conducive Conditions (Source)	Potential MA&D Pathway	Receptors	Potential Effects
Fire at a neighbouring site	Falling debris, fire, smoke/airborne pollutants, release of hazardous substances or loss of utilities services that affects on site receptors.	PHH - Existing Heathrow Airport receptors PHH - Proposed Development Receptors PHH - Off-site third-party receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure Designated land / water sites areas (nationally important) Designated land / water sites (internationally important) Other designated land Scarce habitats Widespread habitat (non-designated land and non-designated water) Protected and Notable Species Freshwater and estuarine water habitat Groundwater (drinking water and non-drinking water) Soil or sediment (as a receptor rather than a pathway)	Increased risk of injury or fatality of airport users and workers Reduced visibility due to smoke from fire, affecting aircraft operations Damage / loss of property and risk of injury or fatality to the general public Indirect effects on human health, property, heritage assets and wildlife due to smoke and ash deposition
Explosion or structural collapse at neighbouring site	Falling debris, fire, smoke/airborne pollutants, release of hazardous substances or loss of utilities services that affects on site receptors.	PHH - Existing Heathrow Airport receptors PHH - Proposed Development Receptors PHH - Off-site third-party receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure Freshwater and estuarine water habitat Groundwater (drinking water and non-drinking water) Soil or sediment (as a receptor rather than a pathway) Protected and Notable Species Scarce habitats	Fatality or risk of injury to airport users, workers and the general public

Potential MA&D Conducive Conditions (Source)	Potential MA&D Pathway	Receptors	Potential Effects
		Widespread habitat (non-designated land and non-designated water)	
Wake vortex leading to property damage	Wake vortex from aircraft movements causing displacement or damage to roof tiles, building fabric, loose materials, temporary structures, vehicles or external fixtures; potentially resulting in falling debris, property damage, injury to people, obstruction of access routes or secondary damage to nearby receptors.	PHH - Off-site third-party receptors Built environment (designated buildings / sites) PHH - Existing Heathrow Airport receptors PHH - Proposed Development Receptors	Fatality or risk of injury to airport users, workers and the general public Indirect effects may include obstruction of access routes, damage to property or heritage assets, emergency response requirements and potential secondary safety risks for pedestrians, road users or nearby occupiers.
External Aircraft Interference (i.e. lasers, drones) – non malicious	Drone activity, laser strikes or other external interference affecting aircraft approach, landing, take-off or ground operations, potentially resulting in pilot distraction, runway closure, collision risk, emergency response activation or disruption to airport operations.	PHH - Existing Heathrow Airport receptors PHH - Proposed Development Receptors PHH - Off-site third-party receptors Built environment (designated buildings / sites) Major Hazard and Strategic Infrastructure	Fatality or risk of injury to airport users, workers and the general public Indirect effects may include disruption to airport operations, transport networks, emergency response arrangements, passenger welfare and access routes.

19.8 Effects Not Requiring Assessment

Approach

19.8.1.1 Further to the longlist of potential hazards, those MA&D that have been scoped out of further consideration are provided in **Table 19-13**. The scoping exercise has been undertaken for each of the hazards identified in the longlist by considering the following criteria as set out within Figure 1 of the ISEP Primer:

- On-site:
  - The Proposed Development is not likely to generate a hazard source that could result in a MA&D; and
  - For potential on-site hazards, a source–pathway–receptor relationship has not been readily identified.
- Off-site:
  - For potential off-site hazards, a source–pathway–receptor relationship has not been readily identified;
  - The Proposed Development does not materially influence risk relative to baseline conditions; and
  - The risk from the MA&D considered is not measurably modified by the changes brought forward by the Proposed Development or the risk is already considered negligible.

19.8.1.2 For both on-site and off-site MA&D, if there are clear, established controls already available that will be implemented to reduce the risk to acceptable levels then again, the potential hazard has been scoped out.

19.8.1.3 To avoid duplication within the ES, where a potential MA&D scenario is already adequately controlled through embedded design measures, established legal requirements, relevant codes and standards, or existing operational and emergency management procedures, this has been identified and signposted. Where the potential effects of a MA&D scenario would be fully assessed within another relevant ES topic chapter, this has also been signposted, and the scenario has not been taken forward for detailed assessment within this MA&D Chapter unless there remains a residual MA&D-specific risk requiring further consideration.

19.8.1.4 The assessment acknowledges that sensitive receptors are present within the wider area, including residential communities, schools, healthcare facilities, care homes, community facilities, transport users, environmental designations, water receptors and strategic infrastructure. However, the presence of sensitive receptors does not, in itself, mean that a potential MA&D scenario requires further assessment within this Chapter. The relevant question is whether the Proposed Development introduces a new MA&D source, creates or alters a credible

pathway, is vulnerable to an existing MA&D source, or increases the likelihood, severity or consequence of a MA&D.

19.8.1.5 Where the answer to these considerations is no, and where existing design measures, legal requirements, codes, standards, regulatory controls or other ES topic assessments provide adequate control or assessment of the potential effect, the MA&D scenario has been scoped out of this Chapter. The justification for each scoped-out scenario is provided in Table 19-3, with cross-reference to relevant ES topic chapters where appropriate.

Table 19-13: Potential MA&D Effects to be Scoped Out of the Assessment

Potential MA&D Conducive Conditions	Is Prop' Dev' on Site potential	Realistic prospect of	Does Prop' Dev' elevate	Justification for Scoping Out of MAD
Seismic hazards i.e. earthquakes	No	No	No	Seismic Hazards have been scoped out of the assessment as the Proposed Development is located within an area of very low seismic activity. The likelihood of a seismic event occurring that could result in significant environmental effects is considered negligible and, therefore, earthquakes do not represent a reasonably foreseeable major accident or disaster risk for the Proposed Development.
Geological hazards, i.e. ground stability, landslides and sinkholes	**Chapter 16: Ground Conditions** proposes to assess geological hazards. Further consideration within the MA&D chapter is therefore not required.			
Sea-level rise and tsunamis	No	No	N/A	Sea-level rise and tsunamis have been scoped out of the MA&D assessment as the Proposed Development is located inland and is not in proximity to coastal areas. As a result, the potential for significant effects arising from these hazards is considered negligible and they are not regarded as reasonably foreseeable risks for the Proposed Development.

Potential MA&D Conducive Conditions	Is Prop' Dev' on Site potential	Realistic prospect of	Does Prop' Dev' elevate	Justification for Scoping Out of MAD
Space weather, including solar flares and radiation storms	No	Yes	No	The Applicant and the design team will have due regard to CAA CAP1428 *Impacts of Space Weather on Aviation*[55]. A new control and monitoring system funded by the UK Research and Innovation's (UKRI) Strategic Priorities Fund will help the UK to understand when solar storms are likely to occur and help to respond to them faster[56]. The Proposed Development does not elevate the risk of solar flares or radiation storms, nor does it introduce additional receptors that would be materially different from those already exposed to this risk in the industry. Therefore, space weather, including solar flares and radiation storms, is scoped out of the assessment.
Ash cloud, volcanic eruptions and other natural phenomenon	No	Yes	No	Following the 2010 eruption of the Eyjafjallajökull stratovolcano in southern Iceland the CAA, and other European bodies established a phased volcanic ash concentration threshold framework with specific threshold zones (low, medium, and high contamination limits ranging

[55] UK CAA Impacts of Space Weather on Aviation. CAP1428. Version 2. Published 27 October 2020. Available at: CAP1428: Impacts of space weather on aviation | UK Civil Aviation Authority

[56] UK Research and Innovation. UK strengthens defences against severe solar storms. Published 4 August 2026. Available at: UK Research and Innovation (UKRI) UK strengthens defences against severe solar storms.

Potential MA&D Conducive Conditions	Is Prop' Dev' on Site potential	Realistic prospect of	Does Prop' Dev' elevate	Justification for Scoping Out of MAD
				from safe levels below 2 mg/m³ up to high-density no-fly zones above 4 mg/m³)[57]. The London Volcanic Ash Advisory Centre (VAAC), managed by the Met Office, utilizes Quantitative Volcanic Ash (QVA) forecasts. These gridded 3D datasets provide real-time, probabilistic modelling to predict when airspace regions are approaching these critical thresholds[58]. As such, the Proposed Development does not elevate the risk, and there are procedures in place to manage the risk and consequently, this hazard is scoped out.
Malicious attacks: terrorism; chemical, biological, radiological and nuclear (CBRN) attacks; cyber attacks (including infrastructure related); explosive devices; malicious drone related incidents.	Yes	Yes	No	The Applicant will consult with relevant security experts from the Centre for the Protection of National Infrastructure and the Department for Transport to ensure that physical, procedural and personnel security measures have been adequately considered in the design process, and that appropriate consideration has been given to the management of security risks to seek to prevent the potential source of a malicious attack, and to remove likely pathways.

[57] UK CAA. Safety and Airspace Regulation Group. Guidance regarding flight operations in the vicinity of volcanic ash. CAP 1236. Published 2017. Available at: Guidance regarding flight operations in the

[58] Met Office. Quantitative Volcanic Ash (QVA) Forecasts. Published November 2025. Available at: Quantitative Volcanic Ash (QVA) Forecasts - Met Office

Potential MA&D Conducive Conditions	Is Prop' Dev' on Site potential	Realistic prospect of	Does Prop' Dev' elevate	Justification for Scoping Out of MAD
Disease outbreaks and pandemics	Disease outbreaks and pandemics have been scoped out of the MA&D assessment as potential effects on human health are considered separately within the ES Chapter: Health. Further assessment in this chapter is therefore not required to avoid duplication.			
Unexploded Ordnance (UXO)	UXO risk has been scoped out of the MA&D assessment as it is being considered through a standalone UXO assessment and will be managed through established UXO risk management protocols during design and construction including appropriate investigation, briefing, specialist support and stop-work/escalation procedures if suspected UXO is encountered. On this basis, UXO is not proposed to be assessed as a standalone MA&D scenario within this Chapter.			
Civil unrest or protest	Yes	Yes	No	The design team and Applicant will ensure that the principles set out in the documentation listed below will be implemented as appropriate to ensure the Proposed Development is able to minimise disruption and limit any environmental effects as a result of civil unrest or protest. Airports Council International (ACI) Advisory Bulletin *Airport Disruptions Caused by Activism* and the following additional ACI guidance[59]: ○ Landside Security Handbook

[59] Airports Council International (ACI), the voice of the world's airports. Airport disruptions caused by activism. Published 14 March 2022. Available at: Airport disruptions caused by activism | ACI World

Potential MA&D Conducive Conditions	Is Prop' Dev' on Site potential	Realistic prospect of	Does Prop' Dev' elevate	Justification for Scoping Out of MAD
				○ Emergency Preparedness and Contingency Planning Handbook ○ Airport Business Continuity Management Handbook National Aviation Security Programme (NASP) 2026-2029[60] CAP 1244: Guidance for UK airports[61] - which provides core principles and recommended practices to help UK airports handle landside disruptions, maintain communication, and secure positive passenger outcomes during operational failures CAP 168: Licensing of Aerodromes (Chapter 9)[62] – requiring development of an Aerodrome Emergency Plan (AEP) ("Emergency Orders") UK Regulation (EU) No 139/2014[63] - requiring aerodrome operators to have an emergency plan in place

[60] UK CAA. UK Main National Aviation Safety Plan 2026-2029. CAP3237. Published 23 April 2026. Available at: CAP3237: UK Main National Aviation Safety Plan 2026-2029 | UK Civil Aviation Authority

[61] UK CAA Passenger welfare at times of major disruption – guidance for UK airports. CAP 1244. Published 2014. Available at: Passenger welfare at times of major disruption - guidance for UK airports

[62] UK CAA. Licensing of Aerodromes. CAP168. Published 2025. Available at: CAP168 Licensing of Aerodromes

[63] European Union. Commission Regulation (EU) No 139/2014 of 12 February 2014 laying down requirements and administrative procedures related to aerodromes. Published 12 February 2014. Available at: Commission Regulation (EU) No 139/2014 of 12 February 2014 laying down requirements and administrative procedures related to aerodromes pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (Text with EEA relevance)

Potential MA&D Conducive Conditions	Is Prop' Dev' on Site potential	Realistic prospect of	Does Prop' Dev' elevate	Justification for Scoping Out of MAD
				The Civil Contingencies Act 2004 (CCA)[64] as a Category 2 Responder.
Importation of Biological agents	Yes	Yes	No	Heathrow is an approved Border Inspection Post, providing the facilities and operational framework required for the Port Health Authority to carry out its statutory functions. These facilities and procedures are subject to regulatory oversight by the CAA. The Proposed Development will extend the existing provision in proportion to the scale of development while maintaining the current standard of service and compliance.

[64] HM Government. Civil Contingencies Act 2004. Published 2004. Available at: Civil Contingencies Act 2004

19.9 Proposed Approach to Assessment

19.9.1 Overview

19.9.1.1 The MA&D assessment differs from the general approach described in **Chapter 4: Approach to EIA** and will follow a qualitative, risk-led assessment methodology. MA&D are, by their nature, infrequent events, the assessment therefore considers both the likelihood of each scenario occurring and the potential magnitude of its consequences.

19.9.1.2 The screening and assessment criteria applied within this assessment have been informed by the ISEP Primer, established risk management and tolerability principles drawn from COMAH, HSE Tolerability of Risk (TOR) / As Low As Reasonably Practicable (ALARP) guidance and CDOIF environmental risk tolerability guidance. In addition, other relevant airport and major infrastructure MA&D assessment precedents have been reviewed to ensure a best practice approach including Gatwick Airport Northern Runway (DCO consented) and London Luton Airport Expansion (DCO consented).

19.9.1.3 The overarching approach to the assessment will comprise the following steps (**Figure 19-1**):

- Compilation of a potential hazards longlist (**Appendix 19.1**);
- Source-pathway-receptor analysis (**Sections 19.7 and 19.8** and **Appendix 19.1**);
- Likelihood and consequence assessment;
- Application of risk or tolerability matrices, as appropriate, dependent on the receptor;
- Identification of mitigation measures;
- Residual risk review;
- Application of professional judgement in the consideration of EIA significance (Significant effect – intolerable risks | Not significant effect – tolerable and TifALARP risks):

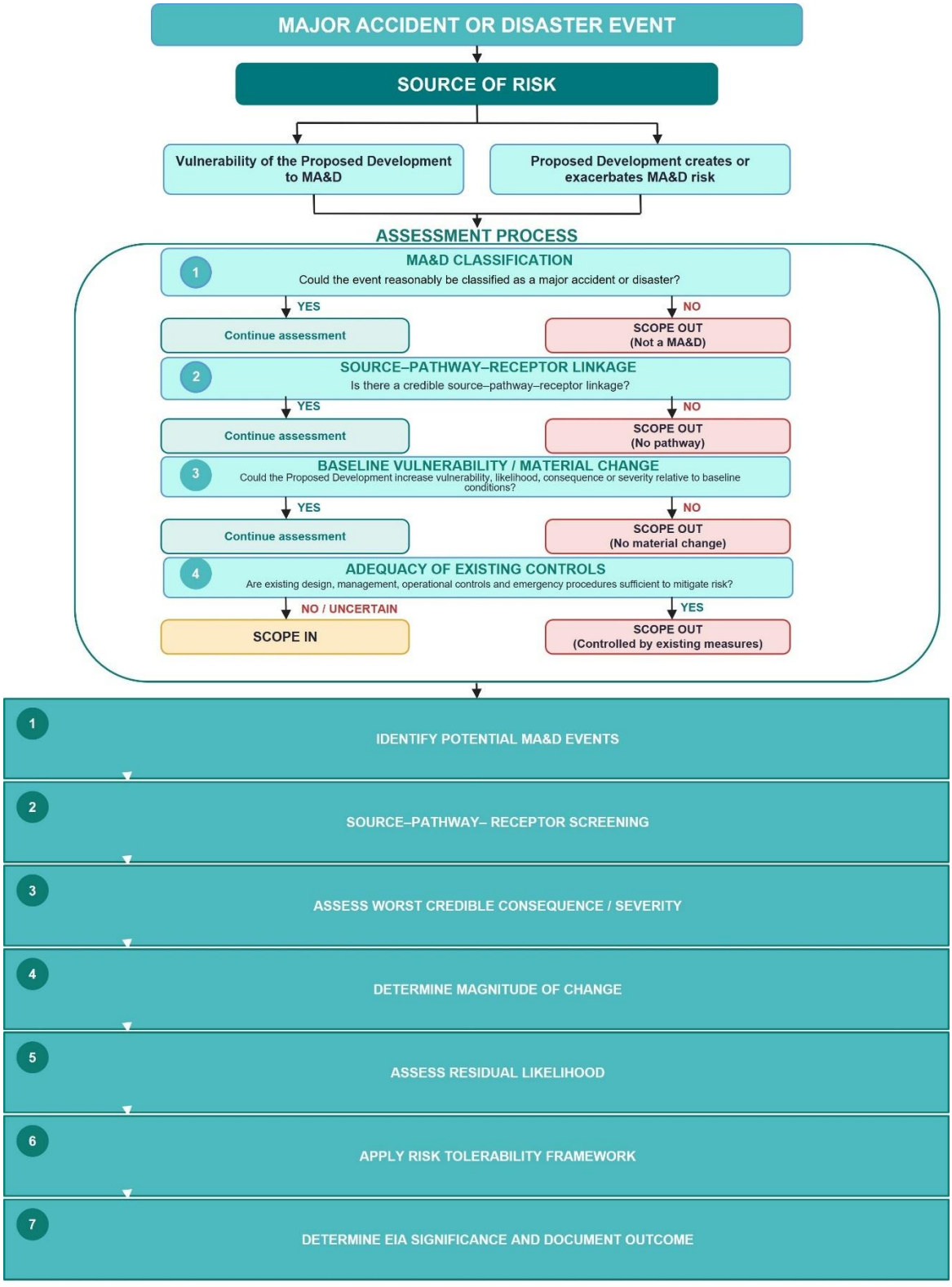


Figure 19-1: MA&D Assessment Overview

19.9.1.4 The compilation of the potential hazards longlist has been undertaken as part of this Scoping exercise. It will continue to be reviewed during the assessment process to ensure it remains relevant to both the Proposed Development and any external factors that could affect the consideration of hazards.

Environmental Risk Register (ERR)

19.9.1.5 A structured ERR will be prepared for the assessment. Based on industry best practice and airport comparator assessments, the ERR is anticipated to record the following information for each hazard:

- Hazard or risk event;
- Hazard source;
- Pathway;
- Receptor;
- Severity of harm;
- Duration and recovery period;
- Mitigation measures relied upon;
- Residual likelihood; and
- Risk tolerability outcome.

19.9.1.6 The ERR will provide a transparent audit trail demonstrating how risks have been identified, screened and assessed.

Assessment Years

19.9.1.7 The overall approach to selecting EIA assessment years is described in **Chapter 4: Approach to EIA**. The assessment years presented here have been defined specifically for the MA&D assessment.

19.9.1.8 The MA&D assessment will incorporate the following assessment year approach:

- Current baseline – this includes the existing HAL operational two runway airport, including flights under Heathrow air traffic control, and the assets and operations within the current airport boundary including those of third parties.
- Future baseline – the full year of operations prior to the Proposed Development opening.
- Construction Phase - The assessment of potential MA&D during construction will consider the sensitivity of risk across the various construction and transition phases to identify the worst-case scenario. As construction activities will vary over time, the worst-case phase may differ depending on the major accident or disaster event being assessed.

- Operational Phase – the year of maximum air traffic movements.
- Maximum environmental effects cases for MA&D: The assessment will consider changes in airport risk over time, including periods of overlapping construction and operation. Any significant variations in the sensitivity of MA&D scenarios will be identified and documented.

Assessment Methodology

19.9.1.9 Potential MA&D events that are scoped into the assessment and have a pathway to one or more receptors will be assessed qualitatively to determine whether the resulting harm could lead to a significant effect.

19.9.1.10 Receptor sensitivity is not assessed as a separate scoring criterion within the MA&D assessment. Instead, receptors are identified to establish the presence of a credible source–pathway–receptor linkage and to understand the potential consequences of a MA&D event, including whether vulnerable human receptors, sensitive environmental receptors, material assets, cultural heritage assets or strategic infrastructure could be affected. The significance judgement is then made by reference to the tolerability of the residual MA&D risk, taking account of embedded design measures, regulatory controls, good practice and emergency preparedness/response arrangements. Where residual risk is intolerable, the MA&D effect will be considered significant; where residual risk is tolerable, the effect will be considered not significant. This follows standard industry practice and guidance for assessing MA&Ds.

19.9.1.11 This assessment will involve:

- Estimating the magnitude of change for both Human and Non-human receptors associated with each identified event.
- Comparing the estimated magnitude of change against the thresholds defined for MA&D as outlined in **Table 19-16** and **Table 19-19**.
- Screening out and documenting those scenarios where no credible accident or disaster pathway exists, or where the predicted consequences do not meet the relevant major accident or disaster thresholds.

19.9.1.12 Once, the magnitude of potential MA&D risks has been ascertained, due to the potential infrequency of their occurrence there needs to be a consideration of both the likelihood and tolerability of the risk.

19.9.1.13 Likelihood and tolerability criteria are used within this longlist to provide a consistent basis for considering whether a credible MA&D risk event is acceptable in the context of embedded mitigation, good practice controls, regulatory requirements and emergency response arrangements.

19.9.1.14 Likelihood is not determined solely by whether an event is theoretically possible, but by whether it is reasonably foreseeable in the context of the Proposed Development, taking account of accident and incident history, aviation and construction precedent, receptor exposure, credible source–pathway–receptor linkages, embedded controls, regulatory safeguards and emergency response arrangements.

19.9.1.15 Consequently, the final assessment step is to evaluate the significance of the remaining MA&D events, taking account of both the potential consequences and the likelihood of occurrence, to identify any potentially significant effects associated with each MA&D.

19.9.1.16 The assessment of likelihood and magnitude will consider the risk reduction measures embedded within the Proposed Development design and management systems, including emergency planning and preparedness. The effectiveness of these measures in reducing the likelihood and / or consequences of an event, and consequently, the overall level of risk, will be considered in determining the significance of effects.

Magnitude of Change

Human Receptors

19.9.1.17 For human receptors, within the context of potential MA&D, magnitude of change is determined by Severity resulting harm or damage X Number of people affected.

19.9.1.18 **Table 19-14** provides the threshold criteria for human receptors that determines the severity of harm. The criteria have been adopted directly from the guidance produced by the CAA CAP 760 Guidance on the Conduct of Hazard Identification, Risk Assessment and the Production of Safety Cases: For Aerodrome Operators and Air Traffic Service Providers.

19.9.1.19 The Human Receptor Severities of Harm are then considered against Table 19-15 Definitions of Number of People Affected, which is drawn from CAA CAP 795 Safety Management Systems - Guidance to Organisations.

19.9.1.20 The magnitude for human receptors is then defined as either:

- Sub-major accident/disaster threshold;
- Low MA&D;
- Medium MA&D;
- High MA&D; or
- Very high MA&D.

19.9.1.21 This is identified using Table 19-16 Human Receptors: Magnitude of change for potential MA&D.

19.9.1.22 For the purposes of the ES, severity of harm has been defined by reference to the potential worst credible consequence of a risk event.

19.9.1.23 Should a risk event sit at a sub-major accident & disaster threshold, then it is not considered a MA&D and has not been taken forward for further assessment.

Table 19-14: Human Receptors: Severity / Harm criteria for Consideration as a Major Accident (based on unmitigated consequences) (CAA CAP 760)

Environmental receptor	Significant *While this level of harm might be significant pollution, it is not considered a Major Accident to the Environment (MATTE).*	Severe *Department of the Environment, Transport, and the Regions (DETR) Criteria - the lowest level of harm that might be considered MATTE.*	Major	Catastrophic	Source of Information
Severity Level	1	2	3	4	
People (including passengers, workers, members of the public)	Significant incident involving circumstances indicating that an accident, or serious major incident could have occurred, if the risk had not been managed within safety margins, or if another aircraft had been in the vicinity. Reduced ability of the flight crew or air traffic control to cope with the increase workload as a result of the conditions impairing their efficiency. Nuisance to occupants of the aircraft or staff / members	A major incident associated with the operation of an aircraft, in which safety of aircraft may have been compromised, having led to a near collision between aircraft, with ground or obstacles. Minor injury to occupants of the aircraft or staff/members of public at the aerodrome. Minor damage to aircraft or major aerodrome facilities may occur.	As defined in Council Directive 94/56/EC for air traffic services (Ref. 8). For the aerodrome, an event where an accident nearly occurs. The outcome is not under control and could very likely lead to an accident. Damage to major aerodrome facilities. Serious injury to staff/members of public at the aerodrome.	As defined in Council Directive 94/56/EC for air traffic services. Also includes loss of or substantial damage to major aerodrome facilities. Serious injury or fatality of multiple staff/ members of public at the aerodrome.	CAP760

Environmental receptor	Significant *While this level of harm might be significant pollution, it is not considered a Major Accident to the Environment (MATTE).*	Severe *Department of the Environment, Transport, and the Regions (DETR) Criteria - the lowest level of harm that might be considered MATTE.*	Major	Catastrophic	Source of Information
Severity Level	1	2	3	4	
	of public at the aerodrome.				

Table 19-15: Human Receptors Definitions of Duration of Effect (Population source: HSE/CAA)

Description	Numbers affected	
Human Populations	Low to high numbers affected (10s of people)	Very high number affected (100s of people)

Table 19-16: Human Receptors: Magnitude of Change for Potential MA&D

MA&D Severity of Harm	**Very Large**	High MA&D	Very High MA&D
	Large	Medium MA&D	High MA&D
	Severe	Low MA&D	Medium MA&D
	Noticeable	Sub Major Accident / Disaster threshold	
		Low to high numbers affected (10s of people)	**Very high numbers affected (100s of people)**
		Number of people affected	

Non-Human Receptors

19.9.1.24 For non-human receptors (e.g. groundwater, historic buildings, ecological receptors etc.,) within the context of potential MA&D, magnitude of change is determined by Severity of harm X Duration of harm.

19.9.1.25 **Table 19-17** provides the threshold criteria for non-human receptors that determines the severity of harm. The criteria have been adopted directly from the guidance produced by the CDOIF Environmental Risk Tolerability for COMAH Establishments.

19.9.1.26 The Non-human Receptor Severities of Harm are then considered against the Definitions of Duration of Effect set out in **Table 19-18**, which is drawn from the same CDOIF document.

19.9.1.27 Duration criteria are used within the longlist (**Appendix 19.1**) to distinguish between short-term incidents that can be managed through routine controls and events that could result in prolonged, difficult to remediate or irreversible effects.

19.9.1.28 The magnitude for non-human receptors is then defined as either:

- Sub-major accident/disaster threshold;
- Low MA&D;
- Medium MA&D;
- High MA&D; or
- Very high MA&D.

19.9.1.29 This is identified using **Table 19-19** Non-human Receptors: Magnitude of change for potential MA&D.

19.9.1.30 Again, should a risk event be at a sub-major accident & disaster threshold, then it is not considered a MA&D and has not been taken forward for further assessment.

Table 19-17: Non-human Receptors: Severity / Harm criteria for Consideration as a Major Accident (based on unmitigated consequences) (CDOIF)

Environmental receptor	Significant *While this level of harm might be significant pollution, it is not considered a Major Accident to the Environment (MATTE).*	Severe *Department of the Environment, Transport, and the Regions (DETR) Criteria - the lowest level of harm that might be considered MATTE.*	Major	Catastrophic	Example receptors include	Source of Information
Severity Level	1	2	3	4		
Designated Land / water Sites (nationally important)	<0.5 ha or <10%	>0.5ha or 10%-50% of site, area, associated linear feature or population	>50% of site area, associated linear feature or population	n/a	NNR, SSSI, MNR	CDOIF
Designated Land / water Sites (internationally important)	<0.5ha or <5% (<5% LF / Pop)	>0.5ha or 5-25% of site area or 5-25% of associated linear feature or population	25-50% of site area, associated linear feature or population	>50% of site area, associated linear feature or population	SAC, SPA, Ramsar	CDOIF
Other designated land	<10 ha or <10%	10-100ha or 10-50% of land	>100ha or >50% of land	N / A	ESA, AONB, National Park etc	CDOIF

Environmental receptor	Significant *While this level of harm might be significant pollution, it is not considered a Major Accident to the Environment (MATTE).*	Severe *Department of the Environment, Transport, and the Regions (DETR) Criteria - the lowest level of harm that might be considered MATTE.*	Major	Catastrophic	Example receptors include	Source of Information
Severity Level	1	2	3	4		
Scarce Habitat	<2 ha or <10%	2-20ha or 10-50% of habitat	20ha or >50% of habitat	N / A	BAP habitats, geological features	CDOIF
Widespread Habitat – Non designated Land	<10 ha	Contamination of 10 -100 ha of land, preventing growing of crops, grazing of domestic animals or renders the area inaccessible to the public because of possible skin contact with dangerous substances. Alternatively, contamination of 10ha or more of vacant land.	100-1000ha (applied as per text under 'Severe')	>1000 ha (applied as per text under 'Severe')	Land / water used for agriculture, forestry, fishing or aquaculture	CDOIF
Widespread Habitat – Non		Contamination of aquatic habitat which prevents fishing or aquaculture or	N / A	N / A	Land/water used for agriculture, forestry,	CDOIF

Environmental receptor	Significant *While this level of harm might be significant pollution, it is not considered a Major Accident to the Environment (MATTE).*	Severe *Department of the Environment, Transport, and the Regions (DETR) Criteria - the lowest level of harm that might be considered MATTE.*	Major	Catastrophic	Example receptors include	Source of Information
Severity Level	1	2	3	4		
designated water		renders it inaccessible to the public.			fishing or aquaculture	
Groundwater Source of Drinking Water	Interruption of drinking water supply	Interruption of drinking water supplied from a ground or surface source (where persons affected x duration in hours [at least 2] > 1,000) or For England & Wales only 1-10ha of SPZ where drinking water standards are breached	>1 x 10 person-hours interruption of drinking water (a town of ~100,000 people losing supply for month) or For England & Wales only 10-100ha SPZ drinking water standards breached	>1 x 10 person-hours interruption of drinking (~1 million people losing supply for 1 month) or For England & Wales only >100 ha SPZ drinking water standards breached	Drinking water sources (SPZs in England and Wales)	CDOIF
Groundwater - non-Drinking Water Source	<1 ha	1-100 ha of aquifer where water quality standards are	100-10,000ha	>10,000ha	Aquifers (non-drinking	CDOIF

Environmental receptor	Significant *While this level of harm might be significant pollution, it is not considered a Major Accident to the Environment (MATTE).*	Severe *Department of the Environment, Transport, and the Regions (DETR) Criteria - the lowest level of harm that might be considered MATTE.*	Major	Catastrophic	Example receptors include	Source of Information
Severity Level	1	2	3	4		
		breached (or hazardous substance is discernible)			water sources)	
Groundwater in unproductive strata	Groundwater not a pathway to another receptor.	Where the groundwater is a pathway for another receptor assess against relevant criteria for the receptor.		N / A		
Soil or sediment (i.e. as receptor rather than purely a pathway)	Contamination not leading to environmental damage (as per ELD) or not significantly affecting overlying water quality.	Contamination of 10 100ha of land etc. as per Widespread Habitat; Contamination sufficient to be deemed environmental damage (Environmental Liability Directive)	Contamination of 100-1000ha of land, as per Widespread Habitat; Contamination rendering the soil immediately hazardous to humans (e.g. skin contact) or the living environment, but remediation available.	Contamination of >1000ha of land, as per Widespread Habitat; Contamination rendering the soil immediately hazardous to humans (e.g. skin contact) or the living environment		CDOIF

Environmental receptor	Significant *While this level of harm might be significant pollution, it is not considered a Major Accident to the Environment (MATTE).*	Severe *Department of the Environment, Transport, and the Regions (DETR) Criteria - the lowest level of harm that might be considered MATTE.*	Major	Catastrophic	Example receptors include	Source of Information
Severity Level	1	2	3	4		
				and remediation difficult or impossible.		
Built Environment	Damage below a level at which designation of importance would be withdrawn.	Damage sufficient for designation of importance to be withdrawn.	Feature of built environment subject to designation of importance entirely destroyed.	N / A	This is limited to Grade 1 / Cat A Listed buildings, scheduled ancient monuments, conservation area, etc	CDOIF
Particular species (Note - these criteria apply nationally - i.e. England,	Loss of <1% of animal or <5% of plant ground cover in a habitat	Loss of 1-10% of animal or 5-50% of plant ground cover.	Loss of 10-90% of animal or 50-90% of plant ground cover.	Total loss (>90%) of animal or plant ground cover.		CDOIF

Environmental receptor	Significant *While this level of harm might be significant pollution, it is not considered a Major Accident to the Environment (MATTE).*	Severe *Department of the Environment, Transport, and the Regions (DETR) Criteria - the lowest level of harm that might be considered MATTE.*	Major	Catastrophic	Example receptors include	Source of Information
Severity Level	1	2	3	4		
Wales, Scotland)						
Freshwater and estuarine water habitats	Impact below that of Severity level 2					CDOIF

Source: CDOIF Guideline – Environmental Risk Tolerability for COMAH Establishments.

Table 19-18: Non-human Receptors: Definitions of Duration of Effect

Description Harm Duration Category	Short Term Harm with such short recovery is not considered a MATTE	Medium Term	Long Term	Very Long Term
Groundwater or surface water drinking water source (public or private)			Harm affecting drinking water source or SPZ <6 years	Harm affecting drinking water

Description / Harm Duration Category	Short Term Harm with such short recovery is not considered a MATTE	Medium Term	Long Term	Very Long Term
				source of SPZ >6 years
Groundwater (except drinking water sources): WFD hazardous / Non-Hazardous Substances	WFD hazardous substances <3 months WFD non-hazardous substances <1 year	WFD hazardous subs >3 months WFD non-hazardous subs >1 year	WFD hazardous subs >6 years WFD non-hazardous subs >10 years	WFD hazardous subs >20 years WFD non-hazardous subs >20 years
Surface Water (except drinking water sources – see above)	<1 year	>1 year	>10 years	>20 years
Land	<3 years or <2 growing seasons for agricultural land	>3 years or >2 growing seasons for agricultural land	>20 years	>50 years
Built Environment	Can be repaired in <3 years, such that its designation can be reinstated	Can be repaired in >3 years, such that its designation can be reinstated	Feature destroyed, cannot be rebuilt, all features except world heritage sites	Features destroyed, cannot be rebuilt, world heritage site.

Source: CDOIF Guidelines – Environmental Risk Tolerability for COMAH Establishments

Table 19-19: Magnitude of Change for Potential MA&D for Non-human Receptors

MA&D Severity of Harm	**Very Large**	Sub Major Accident / Disaster threshold	High MA&D	Very High MA&D	Very High MA&D
	Large		Medium MA&D	High MA&D	Very High MA&D
	Severe		Low MA&D	Medium MA&D	High MA&D
	Noticeable		Sub Major Accident / Disaster threshold		
		Short	**Medium**	**Long**	**Very long**
		MA&D Duration of harm for non-human receptors			

Evaluation of Tolerability & Significance of Effect

19.9.1.31 The final stage of the assessment is to determine the likelihood of an event occurring and based on the potential consequences and ability to mitigate, to evaluate the resulting level of risk, critically, its tolerability and then based on this determine if it is Significant or not.

Likelihood

19.9.1.32 The CAA guidelines for Safety Management Systems (SMS), state that likelihood is defined as the probability or expected frequency that an unwanted safety event or hazard consequence will occur.

19.9.1.33 Consequently, likelihood combines with severity (magnitude) to dictate a risk's tolerability zone.

19.9.1.34 Likelihood categories are based on the following guidelines R2P2, CAP 795 and the DfT PSZ circular for human populations and CDOIF Guidelines for environmental (non-human) tolerability.

19.9.1.35 The likelihood categories applied in the assessment provide a qualitative, control-adjusted screening scale informed by:

- HSE tolerability of risk principles,
- CDOIF environmental risk tolerability guidance,
- CAA safety management guidance, and
- Relevant airport / major infrastructure MA&D precedent.

19.9.1.36 The categories will be applied after considering whether the event is credible, whether a realistic impact pathway exists, how often receptors could be exposed, whether comparable events have occurred, and the extent to which embedded controls reduce the likelihood of occurrence.

Tolerability

19.9.1.37 Risks will broadly be categorised as:

- Intolerable
  - Risks that cannot be justified and require further risk reduction. Such risks constitute likely Significant adverse effects.
- Tolerable if ALARP
  - Risks that may be acceptable provided they have been reduced so far as is reasonably practicable. These risks will require demonstration that additional mitigation would not be reasonably practicable.
- Broadly Acceptable

- Risks that are sufficiently low that additional mitigation would ordinarily not be required. Such risks would generally not be considered significant.

19.9.1.38 **Table 19 20** sets out the matrix for the assessment of:

- Magnitude X Likelihood = Tolerability

19.9.1.39 Assessment of significance will be informed by the principles of HSE's Tolerability of Risk (TOR) framework and associated ALARP principles as outlined in **Table 19-20**.

19.9.1.40 Professional judgement will be applied when determining whether residual risks are likely to give rise to significant environmental effects.

Table 19-20: MA&D Significance Criteria Matrix for Human and Non-human Receptors

		Likelihood				
Probability		Extremely Improbable	Extremely Remote	Remote	Reasonably Probable	Frequent
Quantitative definition		Should virtually never occur but is theoretically possible	Once in 1000 years to once in 100,000 years	Once in 10 years to once in 1000 years	Once per 40 days to once in 10 years	Once per 40 days to once in 10 years
Qualitative definition		No further measures available to mitigate the risk any lower	Very unlikely to occur	Unlikely to occur during the total operational life of the system	May occur once during total operational life of the system	May occur once during total operational life of the system
MA&D Magnitude	Very High	TifALARP*	Intolerable	Intolerable	Intolerable	Intolerable
	High	Tolerable	TifALARP*	Intolerable	Intolerable	Intolerable
	Medium	Tolerable	Tolerable	TifALARP*	Intolerable	Intolerable
	Low	Tolerable	Tolerable	Tolerable	TifALARP*	Intolerable
	Sub A&D	Not within the scope of MA&D assessment				

Likelihood					
Probability	Extremely Improbable	Extremely Remote	Remote	Reasonably Probable	Frequent
Quantitative definition	Should virtually never occur but is theoretically possible	Once in 1000 years to once in 100,000 years	Once in 10 years to once in 1000 years	Once per 40 days to once in 10 years	Once per 40 days to once in 10 years
Qualitative definition	No further measures available to mitigate the risk any lower	Very unlikely to occur	Unlikely to occur during the total operational life of the system	May occur once during total operational life of the system	May occur once during total operational life of the system

Sources – CAA CAP 760 guidance on the conduct of Hazard Identification, Risk Assessment and the Production of Safety Cases / CDOIF Guideline – Environmental Risk Tolerability for COMAH Establishments

**TifALARP – Tolerable if ALARP | Significant effect – intolerable risks | Not significant effect – tolerable and TifALARP risks*

19.9.1.41 **Figure 19-2** provides a graphical summary of the MA&D assessment outlined above.

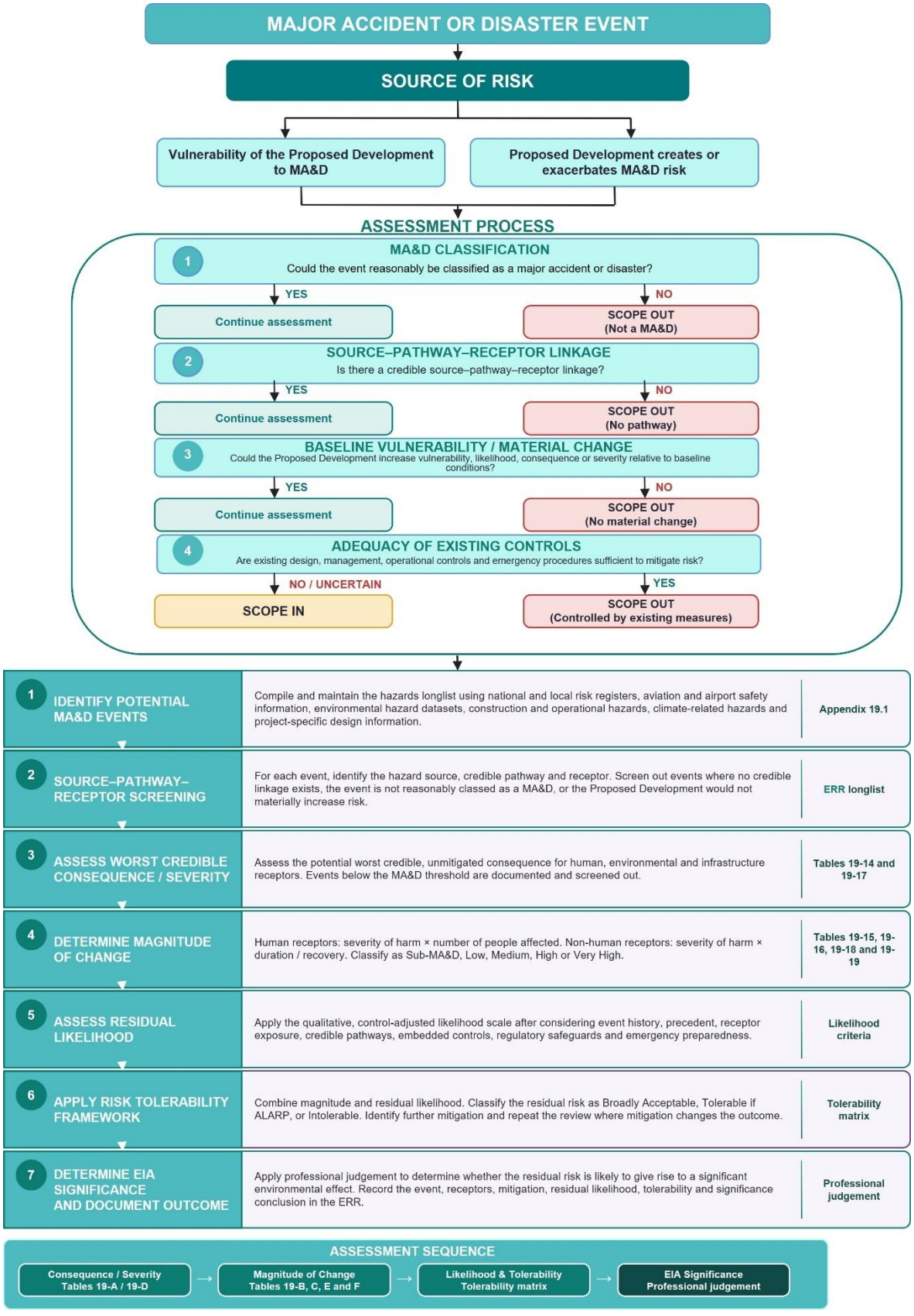


Figure 19-2: Detailed MA&D Assessment Flow Diagram

19.9.2 Cumulative Effects

19.9.2.1 Cumulative MA&D effects resulting from the interaction of effects, combined and additive, from the Proposed Development and other developments will be assessed in accordance with the approach set out in **Chapter 4: Approach to EIA**.

19.9.2.2 MA&D are seldom the result of a single failure. They typically arise from a combination of events, conditions and control failures occurring simultaneously or sequentially, which together result in the breakdown of established safeguards. These may include latent system weaknesses, human errors, equipment failures, organisational factors, or external events that interact to increase the likelihood or consequences of an incident.

19.9.2.3 Climate change has the potential to increase the likelihood and consequences of certain hazards by influencing the frequency, intensity and duration of extreme weather events, including flooding, heatwaves, storms and periods of drought. Such events may place additional stress on infrastructure, operational systems and emergency response arrangements, potentially increasing vulnerability to major accidents and disaster scenarios.

19.9.2.4 The assessment of MA&D will consider not only individual hazards associated with the Proposed Development but also the potential for multiple failures or events to combine and give rise to significant adverse effects on people, property, critical infrastructure, and the environment. This reflects established risk assessment principles whereby major incidents are understood to result from the failure of multiple layers of prevention and mitigation rather than from a single isolated cause.

19.9.3 In-Combination Effects

19.9.3.1 The EIA Regulations (Regulation 5(2)(e)) require that the EIA process should identify, describe and assess the significant effects in relation to:

"(e) the interaction between the factors referred to in sub-paragraphs (a) to (d) [population and human health, biodiversity, land, soil, water, air, climate, material assets, cultural heritage and the landscape.]"

19.9.3.2 In addition, the Airports NPS also states that:

"(Paragraph 4.15). The Examining Authority should consider how significant cumulative effects, and the interrelationship between effects, might as a whole affect the environment, even though they may be acceptable when considered on an individual basis or with mitigation measures in place."

19.9.3.3 The study areas or ZoI for the assessment of inter-related effects will be informed by the study areas used in the topic specific assessments. The approach to assessing inter-related effects will follow a four-stage process as follows:

- Stage 1 - Assessments undertaken for individual EIA topic areas within the ES.

- Stage 2 - Review of the likely receptor(s) affected by more than one impact through analysis of the assessment of effect sections undertaken for individual EIA topic areas.
- Stage 3 – Identify any potential combination effects on these receptor groups through review of the topic specific assessments.
- Stage 4 – Undertake assessment on how individual effects may combine to create inter-related effects on each receptor group during each assessment years stages of the Proposed Development.

19.9.3.4 The assessment will consider the influence of climate change, taking into consideration how different climate change scenarios may alter the likelihood or consequences of certain major accident and disaster scenarios. For example, this may increase the vulnerability of critical infrastructure and emergency response services. This includes healthcare facilities, acute care services and policing services, where reduced operational capacity and increased service demand or disrupted emergency response functions could exacerbate the consequences of a MA&D at the airport. Where climate related hazards have the potential to exacerbate the effects of a MA&D, or where multiple residual effects may act upon the same receptor, these interactions will be identified and considered within the wider in-combination effects assessment.

19.10 Proposed Approach to Mitigation

19.10.1.1 A description of the measures envisaged to prevent or mitigate potential significant adverse effects of MA&D on the environment will be provided as part of the ES, in accordance with Schedule 4 Paragraph 8 of the EIA Regulations.

19.10.1.2 Mitigation measures for Major Accidents and Disasters (MA&D) will follow a hierarchical approach, comprising primary, secondary and tertiary mitigation. Primary mitigation seeks to eliminate hazards or reduce the likelihood of an MA&D occurring through the design of the Proposed Development. Secondary mitigation focuses on limiting the magnitude and extent of environmental effects should an incident occur. Tertiary mitigation relates to emergency preparedness, response and recovery measures intended to minimise the consequences of an event and facilitate restoration of affected receptors.

19.10.1.3 Primary mitigation is expected to include embedded design measures, adherence to relevant engineering standards, compliance with health and safety legislation, application of climate resilience measures, secure site design, and the implementation of construction and operational management plans. These measures are intended to avoid or reduce the likelihood of credible MA&D scenarios arising.

19.10.1.4 Secondary mitigation will include measures designed to reduce the severity of effects should an incident occur, such as pollution prevention and containment systems, drainage and flood management infrastructure, traffic management measures, asset protection, monitoring systems and other controls identified through the design process and technical assessments. Relevant mitigation identified within other ES chapters will also contribute to reducing potential MA&D effects.

19.10.1.5 Tertiary mitigation will comprise emergency preparedness and response measures, including emergency response plans, incident management procedures, communication protocols, staff training and coordination with emergency services and relevant authorities. These measures are intended to reduce residual effects and support the timely recovery of affected environmental receptors following an incident.

19.10.1.6 Measures may include embedded design measures, Applicant management controls and emergency preparedness / response arrangements informed by relevant resilience and emergency planning documentation, including London Resilience Partnership frameworks, severe weather and multi-agency response arrangements, Heathrow Airports Limited emergency planning documentation, London Fire Brigade consultation responses and other emergency responder requirements. This may include emergency service access and facilities, layout and design measures to minimise health and safety risks, fire prevention and response measures, severe weather resilience, hazardous substance containment and pollution response measures, utility resilience and mitigation proposed by other environmental disciplines.

19.10.1.7 Mitigation is applied through an iterative process, whereby risks are reassessed following the implementation of design, management and operational control measures, as illustrated on **Figure 19-3**.

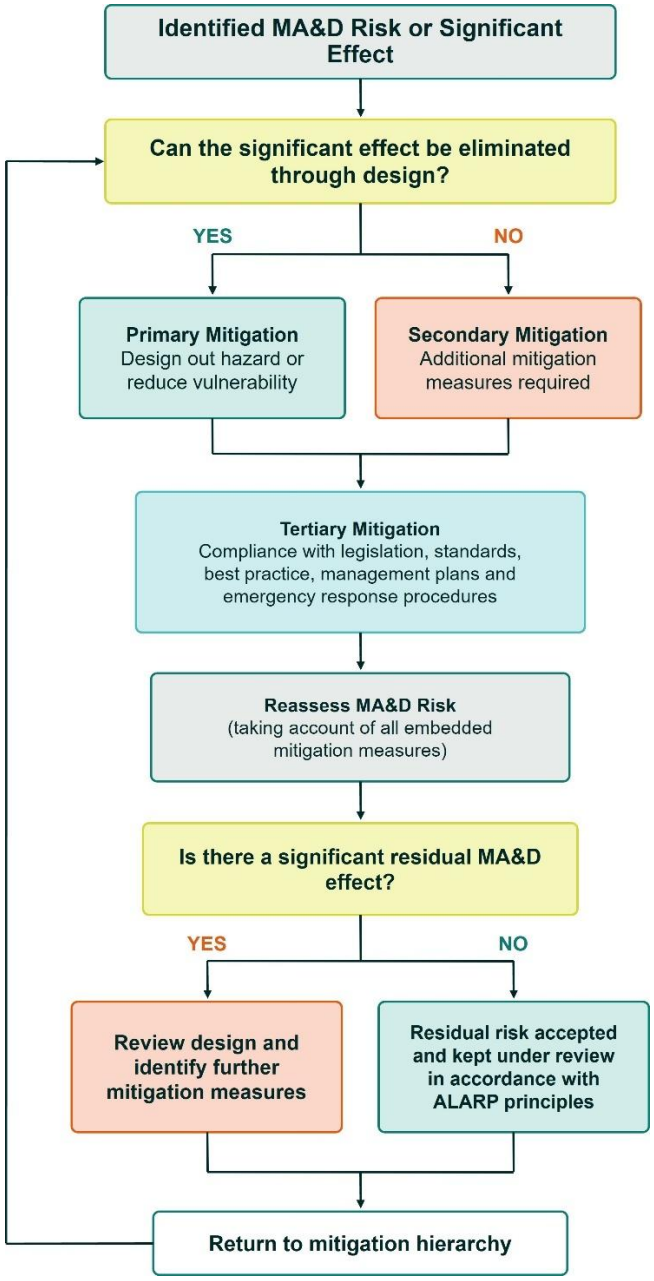


Figure 19-3: Approach to Mitigation

19.11 Summary

19.11.1.1 The MA&D assessment will establish the following:

- Identification of a comprehensive list of possible MA&D events;
- Estimating the magnitude of change associated with each identified event;
- Comparing the estimated magnitude of change against the thresholds defined for MA&D;

- Screening out and documenting those scenarios where no credible accident or disaster pathway exists, or where the predicted consequences do not meet the relevant major accident or disaster thresholds; and
- Evaluating the significance of the remaining scenarios, taking account of both the potential consequences and the likelihood of occurrence, to identify any potentially significant effects associated with MA&D.

19.11.1.2 **Table 19-21** outlines the summary of the scoped in and scoped out elements of the assessment.

Table 19-21: Elements Scoped In / Out of MA&D Assessment

Discipline	Scoped In Elements / Events	Scoped Out Elements / Events
Major Accidents and Disasters	Natural disaster events including: • High Temperatures and heatwaves and drought • Wildfires (in proximity to or directly affecting the Site) • Snow and Icy Conditions Strong winds, and extreme wind events Extreme rainfall and subsequent flooding Lightning	Natural disaster events including: • Seismic hazards, i.e. earthquakes • Geological hazards, i.e. ground stability, landslides and sinkholes • Sea-level rise and tsunamis • Space weather including solar flares and radiation storms • Reduced visibility from volcanic ash, sand or fog

Discipline	Scoped In Elements / Events	Scoped Out Elements / Events
	MA&D from on-site sources: • Fire and / or explosion • Leaks or spillages of hazardous substances • Loss of utilities • Traffic Incidents Accidents resulting from interface with current airport operations and construction activities Emergency response activities implemented on the Main Application Site impacting on sensitive receptors Structural collapse	MA&D from on-site sources: Bird Strike as a standalone MA&D scenario; Malicious attacks; terrorism; chemical; biological, radiological and nuclear (CBRN) attacks; cyber attacks (including infrastructure related); explosive devices; malicious drone related incidents. • UXO
	MA&D from off-site sources: • Fire at a neighbouring site • Explosion or structural collapse at neighbouring site • External Aircraft Interference (i.e. lasers, drones) non-malicious • Wake vortex leading to property damage	MA&D from off-site sources: • Disease outbreak / pandemic • Vandalism / terrorism • Civil unrest or protest • Importation of Biological agents

Environmental Impact Assessment Scoping Report

Chapter 20

Noise and Vibration

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20 Noise and Vibration

20.1 Introduction

20.1.1.1 This Chapter of the EIA Scoping Report has been prepared by Bickerdike Allen Partners LLP and sets out the likely significant effects on Noise and Vibration produced by the Proposed Development which will be reported in the ES.

20.1.1.2 The principal noise and vibration sources will comprise operational airborne aircraft noise, aircraft ground noise, construction plant, construction-related traffic, and changes in road and rail traffic noise. Key deliverables will include the ES noise and vibration Chapter and supporting modelling, noise contours and technical assessments.

20.1.1.3 This Chapter describes:

- Noise and vibration policy, legislative context, and guidance;
- Proposed stakeholder engagement;
- The study areas for the various sources;
- Sources of data;
- Baseline conditions, for current and future conditions;
- Likely significant effects of noise and vibration requiring assessment, including; construction, operation, and decommissioning;
- Effects not requiring assessment;
- The proposed approach to the assessment; and
- The proposed approach to mitigation.

20.1.1.4 This Chapter should be read in conjunction with the description of the Proposed Development given in **Chapter 2:The Proposed Development**, the description of the Existing Site and its Surroundings in **Chapter 3: Description of the existing Site and its Surroundings**, and the relevant parts of the following Chapters:

- **Chapter 6: Biodiversity** (potential noise disturbance to sensitive fauna);
- **Chapter 13: Historic Environment** (potential noise disturbance to heritage sites);
- **Chapter 14: Health** (assessment of noise impact on human health at population level); and
- **Chapter 21: Traffic and Transport**.

20.1.1.5 Noise and vibration effects will be assessed principally within the Noise and Vibration Chapter, which will quantify changes in noise exposure and assess the associated acoustic effects, including effects relating to annoyance and sleep disturbance.

20.1.1.6 **Chapter 14: Health** will draw upon the findings of the Noise and Vibration assessment to consider the implications of noise exposure for population health, including the significance of relevant health outcomes, the distribution of effects

across affected populations, and the potential for disproportionate effects on vulnerable groups or to exacerbate existing health inequalities.

20.1.1.7 **Chapter 6: Biodiversity** will draw upon the findings of the Noise and Vibration assessment to assess disturbance or displacement of species due to construction noise and vibration, and increased operational noise and vibration.

20.1.1.8 **Chapter 13: Historic Environment** will draw upon the findings of the Noise and Vibration assessment to assess the impact of noise and vibration upon archaeology, built heritage, and historic landscape.

20.2 Policy, Legislation and guidance

20.2.1.1 This section identifies the relevant topic-specific policies that have informed the scope and, where relevant, the study area of the assessment. Further information on the policies relevant to the EIA and their status is set out in **Section 1.9**, which should be read in conjunction with this Chapter.

20.2.1.2 Relevant Policy is given in **Table 20-1.**

20.2.1.3 Relevant Legislation is given in **Table 20-2**.

20.2.1.4 The guidance and standards listed in **Table 20-3** will be used in the noise and vibration assessment.

20.2.1.5 Local Planning Policy and Guidance relevant to the Noise and Vibration assessment are given in **Table 20-1** and **Table 20-3** respectively. These will be reviewed with respect to the Proposed Development as part of the noise and vibration impact assessment.

Table 20-1: Policy relevant to the Noise and Vibration assessment

Relevant Policy	Relevance to assessment
Policy – International	
ICAO Guidance on the Balanced Approach to Aircraft Noise Management 2008[1]	The International Civil Aviation Organisation (ICAO) is the inter-governmental body that oversees the worldwide civil aviation industry. ICAO has adopted a set of principles and guidance, constituting the 'Balanced Approach' to aircraft noise management, which encourages ICAO member states to address the following points:

[1] International Civil Aviation Organization 2008. Guidance on the Balanced Approach to Aircraft Noise Management, 9829 23nd ed. Published 2008. Available at: https://store.accuristech.com/standards/icao-9829?product_id=2858637 (accessed on: 25/06/2026).

Relevant Policy	Relevance to assessment
	• Mitigate aviation noise through selection at a local level the optimum combination of four key measures; ○ Reducing noise at source (from use of quieter aircraft); ○ Making best use of land (plan and manage the land surrounding airports); ○ Introducing operational noise abatement procedures (by using specific runways, routes or procedures); ○ Imposing noise-related operating restrictions (such as a night time operating ban or phasing out of noisier aircraft); • Select the most cost-effective range of measures; and • Not introduce noise-related operating restrictions unless the authority is in a position, on the basis of studies and consultations, to determine whether a noise problem exists and having determined that an operating restriction is a cost-effective way of dealing with the problem.
ICAO - Aircraft noise certification[2]	ICAO has also set a number of standards for aircraft noise certification, which are contained in Volume 1 of Annex 16 to the Convention on International Civil Aviation. This document sets maximum noise levels for different aircraft during take-off and landing, categorised for subsonic jet aeroplanes as Chapter 2, 3, 4 and 14: • Chapter 2 aircraft have been prevented from operating within the EU since 2002, unless they are granted specific exemption, and therefore most aircraft fall within Chapter 3, 4 and 14 parameters. These aircraft are quieter than Chapter 2 aircraft; • Chapter 4 standards have applied to all new aircraft manufactured since 2006. These aircraft must meet a standard of being cumulatively 10 dB quieter than Chapter 3 aircraft; • Chapter 14 was adopted by the ICAO in 2014. This represents an increase in stringency of 7 dB compared with Chapter 4. Chapter 14 was phased in gradually for new aircraft submitted for certification after 31st December 2017 for heavier aircraft and for lighter aircraft those submitted for certification after 31st December 2020; and • Chapters 15 and 16 were adopted by the ICAO in 2026 and cover supersonic and subsonic aircraft respectively. Both standards were adopted by the ICAO Council on 27 March 2026 and are intended to apply to new aircraft type submitted for certification after 31st December 2028.

[2] International Civil Aviation Organization 2017. Annex 16 to the Convention on International Civil Aviation, Volume 1 8th ed. Published July 2017. Available at: https://elibrary.icao.int/product/289652 (accessed on: 25/06/2026).

Relevant Policy	Relevance to assessment
Policy – National	
Noise Policy Statement for England (NPSE) 2010[3]	The NPSE sets out the long-term vision and national policy on noise. NPSE sets out the following aims: *"Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:* • avoid significant adverse impacts on health and quality of life; • mitigate and minimise adverse impacts on health and quality of life; and • where possible contribute to the improvement of health and quality of life." The NPSE notes the need to integrate consideration of the economic and social benefit of the activity under examination with proper consideration of the adverse environmental effects, including the impact of noise on health and quality of life. This is to avoid treating noise in isolation in any particular situation, i.e., not focusing solely on the noise impact without considering other related factors. The NPSE notes the established concepts of NOEL (No Observed Effect Level) and LOAEL (Lowest Observed Adverse Effect Level) and extends these concepts to introduce SOAEL (Significant Observed Adverse Effect Level): • NOEL (No Observed Effect Level) - This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise; • LOAEL (Lowest Observed Adverse Effect Level) - This is the level above which adverse effects on health and quality of life can be detected; and • SOAEL (Significant Observed Adverse Effect Level) - This is the level above which significant adverse effects on health and quality of life occur. The NPSE links LOAEL and SOAEL to the second and third aims of NPSE and sets out the actions that are required as each threshold is passed in paragraphs 2.20 to 2.25. This is set out in more detail in the Planning Practice Guidance – Noise (PPG-N)[61]. NPSE states that it is not possible to have a single objective noise-based measure that defines a SOAEL that is applicable to all

[3] Department for Environment, Food and Rural Affairs 2010. Noise Policy Statement for England,. Published March 2010. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69533/pb13750-noise-policy.pdf (accessed on: 25/06/2026).

Relevant Policy	Relevance to assessment
	sources of noise in all situations. Consequently, the SOAEL is likely to differ across noise sources, receptors, and times.
Aviation Policy Framework (APF) 2013[4].	The APF sets out the Government's overall policy on aviation noise (noting that it is consistent with the NPSE): *"3.12 The Government's overall policy on aviation noise is to limit and, where possible, reduce the number of people in the UK significantly affected by aircraft noise, as part of a policy of sharing benefits of noise reduction with industry."* The APF also provides guidance (subsequently amended[5]) in para. 3.17 to 3.19 on the noise metrics to be used to rate air noise, along with their meaning. The APF also sets out Government expectations (subsequently amended[5]) for noise insulation schemes and assistance with the costs of moving at high levels of exposure in paragraphs 3.39 and 3.36 respectively.
Consultation Response on UK Airspace Policy 2017[5]	The APF noise objective was clarified in 2017 by the Consultation Response on UK Airspace Policy: *"2.69 The government's overall policy on aviation noise is to limit and, where possible, reduce the number of people in the UK significantly affected by aircraft noise as part of a policy of sharing benefits of noise reduction with industry in support of sustainable development. Consistent with the Noise Policy Statement for England, our objectives in implementing this policy are to:* • limit and, where possible, reduce the number of people in the UK significantly affected by the adverse impacts from aircraft noise...". The Government confirms that the Consultation Response should be considered current government policy in paragraph 9 of the introduction: *"The Government's current aviation policy is set out in the Aviation Policy Framework (APF). The policies set out within this document provide an update to some of the policies on aviation noise contained*

[4] Department for Transport 2013. Aviation Policy Framework. Published March 2013. Available at: https://assets.publishing.service.gov.uk/media/5a7aa94b40f0b66eab99bc3e/aviation-policy-framework.pdf (accessed on: 25/06/2026).
[5] Department for Transport 2017. Consultation Response on UK Airspace Policy: A framework for balanced decisions on the design and use of airspace. Published October 2017. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/653801/consultation-response-on-uk-airspace-policy-web-version.pdf (accessed on: 25/06/2026).

Relevant Policy	Relevance to assessment
	within the APF, and should be viewed as the current government policy...". The Consultation Response updates the APF in a number of ways: • The creation of an Independent Commission on Civil Aviation Noise (ICCAN) as an advisory non-departmental public body; • The removal of the 3 dB minimum change requirement for financial assistance towards acoustic insulation to residential properties exposed to >63 dB $L_{Aeq,16h}$ as a consequence of airport development; • Acknowledgement that a level of 54 dB $L_{Aeq,16h}$ now corresponds to the approximate onset of significant community annoyance (replacing 57 dB $L_{Aeq,16h}$ in the APF); • Acknowledgement that some adverse effects can be seen to occur down to 51 dB $L_{Aeq,16h}$ and 45 dB L_{night}. Following consultation with the CAA, the Government defines LOAEL values as 51 dB $L_{Aeq,16h}$ day and 45 dB $L_{Aeq,8h}$; and • No change to the government's expectation for airports to assist with the costs of moving where exposed to 69 dB $L_{Aeq,16h}$ or more but with a new requirement of an offer of full insulation to be paid for by the airport where the homeowners do not want to move. ICCAN was created but was subsequently wound down in September 2021 with some of its functions taken on by the UK Civil Aviation Authority (CAA).
Air Navigation Guidance (ANG) 2017[6]	The Government also provided guidance on the implementation of aviation noise policy (as clarified by the Consultation Response) in the ANG, specifically paragraphs 3.4 to 3.12. This guidance may be summarised as: • The definition of the national aviation noise objective is "to limit and, where possible, reduce the number of people in the UK significantly affected by adverse impacts from aircraft noise"; • The Government wishes the CAA to interpret this objective to mean that the "*total adverse effects*" on people as a result of aviation noise should be limited and, where possible, reduced, rather than the objective relating to the absolute number of people in any particular noise contour. Adverse effects are those related to health and quality of life; • LOAEL values are defined as 51 dB $L_{Aeq,16h}$ for the day and 45 dB $L_{Aeq,8h}$ for the night; and

[6] Department for Transport 2017. Air Navigation Guidance. Published October 2017. Available at https://www.gov.uk/government/publications/uk-air-navigation-guidance-2017 (accessed on: 25/06/2026).

Relevant Policy	Relevance to assessment
	• For communities further away from airports that will not be affected by noise above the LOAELs identified above, it is important that other aspects of noise are also taken into account where the total adverse effects of noise on people between different options are similar. Metrics that must be considered for these purposes in terms of airspace change proposals include the overall number of overflights and number above metrics: N65 for daytime noise and N60 for night-time noise. Whilst paragraphs 3.4 to 3.12 are specific to airspace change, the guidance as a whole also applies to noise management in general (as noted in the document's subtitle: *"Guidance to the CAA on its environmental objectives when carrying out its air navigation functions, and to the CAA and wider industry on airspace and noise management"*) and is in line with the Government's 2017 clarification of aviation noise policy[5], which is not limited to airspace change. As a result, the guidance has been consistently adopted for airport expansion applications and decisions such as Gatwick Airport Northern Runway Project DCO, which was decided on by the Secretary of State for Transport in September 2025. The Secretary of State for Transport supported the adoption of the Applicant's LOAELs which were those in the ANG. In that decision the Secretary of State advised that they considered that the values proposed by the Applicant for SOAELs are appropriate and consistent with policy. She further noted that recent aviation planning decisions have used the same approach and arrived at similar limits to those proposed by the Applicant. Those SOAEL values were 63 dB $L_{Aeq,16h}$ for the day and 55 dB $L_{Aeq,8h}$ for night.
Air Navigation Guidance (ANG) 2026[7]	The ANG provides guidance on the implementation of aviation noise policy and is a revision to the Air Navigation Guidance 2017[6]. It was published on 10 August 2026, will replace the 2017 guidance when it comes into effect on 1 October 2026. The 2026 ANG sets out the priorities for airspace changes as follows (para. 45): "*The CAA should prioritise outcomes in the following order:* *1. First, ensure safety and viability of the design.* *2. Within the possibilities remaining after prioritising 1, enable aviation activity permitted by planning decisions, including any relevant conditions, and government planning policy statements.*

[7] Department for Transport 2026. Air Navigation Guidance 2026. Published August 2026. Available at: https://www.gov.uk/government/publications/uk-air-navigation-guidance-2026 (accessed on:26/08/2026).

Relevant Policy	Relevance to assessment
	3. Within the possibilities remaining after prioritising 1 and 2, minimise change to the areas where aircraft noise is currently experienced from aircraft below 5,000ft. *4. Within the possibilities remaining after prioritising 1, 2 and 3, minimise, as much as is practicable and realistic to do so, the total adverse noise impacts of aircraft below 5,000ft.* *5. Within the possibilities remaining after prioritising 1,2,3 and 4, prioritise flight efficiency where aircraft are at 5,000ft and above".* In the context of priorities 3. and 4. listed above, the guidance includes the following definition (para. 68): "*Change in noise exposure as referred to in the airspace design priorities should be considered to be where there is a change, plus or minus, three decibels of noise (i.e. ±3 dB L_{Amax}).*" With respect to evaluation of total adverse noise impacts below 5,000ft, the guidance states: *"69. In order to evaluate and minimise as much as is practicable and realistic to do so, total adverse noise impacts below 5,000ft, the CAA should require airspace change sponsors to first calculate population noise exposure and then calculate adverse noise impacts, as follows:* *70. Population noise exposure should be assessed using noise modelling software and inputs in accordance with CAP2091. Noise exposure from aircraft must be calculated up to 5,000ft; vertical profiles must be truncated at 5,000ft to exclude noise from aircraft above this level. Noise exposure must be evaluated for the summer average using:* *• (1) the $L_{Aeq,16h}$ daytime metric between 7am-11pm; and* *• (2) the $L_{Aeq,8h}$ nighttime metric between 11pm-7am.* *71. Next, population noise exposure within the resulting noise contours should be estimated using the latest available demographic data.* *72. Finally, the CAA's process should require the airspace change sponsors to use the Department for Transport's Transport Analysis Guidance (TAG) to measure the anticipated adverse noise impact of the proposed design from the calculated population noise exposure…* *75. 'Adverse noise impacts' are those related to health and quality of life, as described in the Noise policy statement for England. To help assess these impacts, a concept is used known as the Lowest Observed Adverse Effect Level (LOAEL). This represents the point at which adverse noise effects begin to be seen across a community.*

Relevant Policy	Relevance to assessment
	75. The current LOAEL values used for aviation noise are: *• 51 dB $L_{Aeq,16h}$ for daytime noise exposure* *• 45 dB $L_{Aeq,8h}$ for night time noise exposure.* *76. Above these levels, the likelihood of people experiencing adverse effects from noise increases. In line with this increase in risk, the proportion of the population likely to be significantly affected can be expected to grow as the noise level increases.* *77. The LOAEL values are based on the best available evidence at the time they are adopted. As the scientific understanding of aviation noise and its effects on health and quality of life develops, these values may be reviewed and updated to reflect new research and evidence. Similarly, the methods and values used in TAG to calculate the costs and benefits of noise impacts are maintained and updated as necessary to remain consistent with government policy and the latest evidence base."*
Aviation 2050: The Future of UK Aviation 2018[8]	Aviation 2050 remains a draft strategy document prepared by the Government for consultation in 2018. Whilst not adopted policy, the proposal provides an indication of Government consideration of potential future noise policy changes. It states that the Government is proposing *"…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"* and proposes the following (para. 3.122): • "to extend the noise insulation policy threshold beyond the current 63 dB $L_{Aeq,16h}$ contour to 60 dB $L_{Aeq,16h}$ • to 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 contributions are affecting take-up • the Government or the Independent Commission on Civil Aviation Noise (ICCAN) to issue new guidance to airports on best practice for noise insulation schemes, to improve consistency • for airspace changes which lead to significantly increased overflight, to set a new minimum threshold of an increase of 3 dB L_{Aeq}, which leaves a household in the 54 dB $L_{Aeq,16h}$ contour or above as a new eligibility criterion for assistance with noise insulation".

[8] Department for Transport 2018. Aviation 2050 The future of UK aviation. Published December 2018. Available at https://assets.publishing.service.gov.uk/media/5c34aba0e5274a65b8ec7919/aviation-2050-web.pdf (accessed on: 25/06/2026).

Relevant Policy	Relevance to assessment
	ICCAN published its review of airport noise insulation schemes in 2021. The document also addresses developments in the evidence base in relation to the effects of aviation noise, stating at paragraph 3.106 that: *"The government is considering the recent new environmental noise guidelines for the European region published by the World Health Organization (WHO). It agrees with the ambition to reduce noise and to minimise adverse health effects, but it wants policy to be underpinned by the most robust evidence on these effects, including the total cost of action and recent UK specific evidence which the WHO report did not assess."* The proposals in Aviation 2050 have not been adopted in policy. The proposals, however, remain relevant and so they will be considered in the development of the mitigation and compensatory measures for the Proposed Development.
Flightpath to the Future (FTTF) 2022[9]	In May 2022, the Government published FTTF, a strategic framework that builds on the responses received to the Aviation 2050 consultation, and sets out a 10-year vision for the future of the aviation industry. FTTF contains a ten-point plan for the future of UK aviation (pages 9 to 11). Point 4 provides that the Government will *"continue to work with the sector to reduce the localised impacts of aviation from noise and air pollution"*. FTTF also details how the CAA has assumed most of the functions previously performed by ICCAN and that the Government will work closely with the CAA on these issues. It states at page 35 that *"This will include collaboration on the CAA's plans to create a new Sustainability Panel, designed to provide independent expert advice on a range of environmental issues including carbon, noise and air quality."* FTTF also states (page 35): *"…the Government set out new policy proposals to tackle these localised impacts through the Aviation 2050 consultation (2018). These included a clearer noise policy framework alongside measures to incentivise best operational practice to reduce noise and measures to improve airport noise insulation schemes. As the sector recovers, and air travel volumes increase again, these aims remain very relevant and we will set out next steps in 2022/23".*

[9] Department for Transport 2022. Flightpath to the Future: a strategic framework for the aviation sector. Published May 2022. Available at: https://assets.publishing.service.gov.uk/media/628f7d26e90e07039f799ebc/flightpath-to-the-future.pdf (accessed on 26/06/2026).

Relevant Policy	Relevance to assessment
Overarching Aviation Noise Policy Statement (OANPS) 2023[10]	Following the aspirations set out in FTTF, the Government published the OANPS which confirms and clarifies the Government's aviation noise policy, building on the APF and subsequent policy updates. The OANPS states (paras. 3 and 4): *"The Government's overall policy on aviation noise is to balance the economic and consumer benefits of aviation against their social and health implications in line with the International Civil Aviation Organisation's Balanced Approach to Aircraft Noise Management. This should take into account the local and national context of both passenger and freight operations, and recognise the additional health impacts of night flights.* *The impact of aviation noise must be mitigated as much as practicable and realistic to do so, limiting, and where possible reducing, the total adverse impacts on health and quality of life from aviation noise."* The OANPS highlights that the economic and consumer benefits may counterbalance any increase in the adverse effects of noise, going on to state (para. 8): *"…An overall reduction in total adverse effects is desirable, but in the context of sustainable growth an increase in total adverse effects may be offset by an increase in economic and consumer benefits."* This is a clarification and confirmation that the Government's policy since the APF has been in the context of a balance between the economic benefits and other implications. As noted in the APF at paragraph 1.91: *"Where a planning application is made that is likely to have an impact on an existing aerodrome's operations, the economic benefit of the aerodrome and its value to the overall aerodrome network as well the economic benefits of the development will be considered as part of the application process. However, these benefits will be balanced against all other considerations."* Paragraph 8 also provides a link to NPSE[3]: *"…In circumstances where there is an increase in total adverse effects, "limit" would mean to mitigate and minimise adverse effects, in line with the Noise Policy Statement for England."* The OANPS, in line with historic aviation policy and current noise policy (NPSE), makes clear that whilst an overall reduction in total

[10] Department for Transport 2023. Overarching Aviation Noise Policy. Published March 2023. Available at: https://www.gov.uk/government/publications/aviation-noise-policy-statement/overarching-aviation-noise-policy (accessed on 26/06/2026).

Relevant Policy	Relevance to assessment
	adverse effects from aviation noise is desirable, noise must be considered in the context of sustainable development policy and hence must be balanced with the economic and consumer benefits of aviation. Further, this balance should consider the local and national context of both passenger and freight operations and recognise the additional health impacts of night flights.
Airports National Policy Statement (ANPS) 2018[11]	The ANPS issued in 2018 provides the primary policy framework for expansion at Heathrow Airport and the primary basis for decision-making on any development consent application for a new runway. It requires any proposed development to be undertaken in accordance with statutory obligations for noise[37], and to give due regard to national policy on aviation noise, and the relevant sections of the NPSE[3], NPPF[18], and planning guidance on noise[61]. It is, however, the *"…primary policy on noise when considering the Heathrow Northwest Runway scheme, and has primacy over other wider noise policy sources"*. It requires any application to undertake a noise assessment *"…for any period of change in air traffic movements prior to opening, for the time of opening, and at the time the airport is forecast to reach full capacity, and (if applicable, being different to either of the other assessment periods) at a point when the airport's noise impact is forecast to be highest".* It specifies that a noise assessment should include the characteristics of the existing noise environment including noise from aircraft (using indicative flightpaths where necessary), and from surface transport and ground operations during both construction and operational phases. It should include an assessment of the likely significant effect of predicted changes in the noise environment on any noise sensitive premises (including schools and hospitals) and noise sensitive areas (including National Parks and Areas of Outstanding Natural Beauty). The assessment should predict how the noise environment will change with the proposed project, along with mitigation measures to ensure the impact of aircraft noise is limited and, where possible, reduced compared to the 2013 baseline assessed by the Airports Commission.

[11] Department for Transport 2018. Airports National Policy Statement:
new runway capacity and infrastructure at airports in the South East of England. Published June 2018. Available at: https://assets.publishing.service.gov.uk/media/5b1794cded915d2cccc8d336/airports-nps-new-runway-capacity-and-infrastructure-at-airports-in-the-south-east-of-england-print-version.pdf (accessed on 26/06/2026).

Relevant Policy	Relevance to assessment
	The 2013 baseline for the 54 dB $L_{Aeq,16h}$ noise contour (annual average noise levels for the 16-hour period between 0700 – 2300) assessed by the Airports Commission. ANPS requires an applicant to specifically seek to deliver a number of noise mitigation measures including: • A noise envelope; • Plans for a runway alternation scheme that provides predictable periods of respite; • A ban on scheduled night flights; and • A community compensation package for homes, schools and community buildings exposed to various noise thresholds.
Draft Heathrow Expansion National Policy Statement (HENPS) 2026[12]	This is a proposed draft revision to the Airports National Policy Statement[11] to take account of "…significant global, policy and legislative changes…" including changes to the NPS process through the Planning and Infrastructure Act 2025[52]. Although it expects the trend in reduction in aviation noise due to technological and operational improvements to continue in the medium term, it also states that the recent Aviation Night Noise Effects study (ANNE)[63] and the Aviation Noise Attitudes Survey (ANAS)[65] suggest that people are more annoyed by aviation noise and at lower levels than previous evidence indicated. It is informed by the Government's own analysis of the potential noise impacts of the HAL Northwest Runway scheme. For this analysis the Government used an 'indicative' flight path design produced for the Airports Commission which, following discussion with Heathrow Airport Limited (as current airport operator) and NATS, it considered the most relevant and reasonable basis to assess noise impacts of the scheme, given the early stage of the airspace design process and information available at the time of publication. The Government's analysis of the proposed Northwest Runway scheme shows that when modelled for future years, overall noise exposure can be limited to no greater than 2024 noise levels despite additional flights[13].

[12] Department for Transport 2026. Proposed draft revision to the Airports National Policy Statement To be known as the Heathrow Expansion National Policy Statement. Published June 2026. Available at: https://assets.publishing.service.gov.uk/media/6a39242500ff27f06e3efbb9/proposed-draft-revision-to-the-anps-to-be-known-as-the-henps-large-print-version.pdf (accessed on 21/06/2026).
[13] Department for Transport 2026. Draft Heathrow Expansion National Policy Statement Appraisal of Sustainability. Available at https://www.gov.uk/government/publications/draft-heathrow-expansion-national-policy-statement-appraisal-of-sustainability

Relevant Policy	Relevance to assessment
	With respect to the differences between the ANPS[11] and HENPS with respect to scoping, para. 5.55 states: • "The scheme will avoid significant adverse impacts on health and quality of life from noise by limiting, and where reasonably possible, reducing overall aircraft noise compared to 2024 taking account of quieter aircraft and operating procedures…". This is with reference to the area impacted in the 51 dB $L_{Aeq,16h}$ contour for daytime noise and the 45 dB $L_{Aeq,8h}$ contour for nighttime noise in 2024. The draft HENPS requires an applicant to specifically seek to deliver the same noise mitigation measures, including: • A noise envelope; • Plans for a runway alternation scheme that provides predictable periods of respite; • A ban on scheduled night flights; and • A community compensation package for homes, schools and community buildings exposed to various noise thresholds. With respect to compensation para. 5.346 states: "In addition to statutory requirements, the applicant will be expected to offer the following, or equivalent or better, compensation… • To offer to provide full acoustic insulation for residential property within the full single mode easterly and westerly 60 dB $L_{Aeq,16h}$ noise contour of an expanded airport; • To provide a contribution of up to £3,000 for acoustic insulation for residential properties within the full single mode easterly and westerly 57 dB $L_{Aeq,16h}$ or the full 55 dB L_{den} noise contours of an expanded airport, whichever is the bigger; and • To deliver a programme of noise insulation and ventilation for schools and community buildings within the full single mode easterly and westerly 60 dB $L_{Aeq,16h}$ contour". Under 'Historic Environment ', para, 5.288 states: "Detailed studies will be required on those heritage assets affected by noise…based on the guidance provided in …the Aviation Noise Metric".
National Networks National Policy Statement (NNNPS) 2024[14]	This sets out the need for, and government policies to deliver, development of Nationally Significant Infrastructure Projects (NSIPs) on the national road and rail networks in England, including strategic rail freight interchanges (SRFIs) and major road projects.

[14] Department for Transport 2024. National Networks National Policy Statement. Published March 2024. Available at: https://www.gov.uk/government/publications/national-networks-national-policy-statement (accessed on 26/06/2026).

Relevant Policy	Relevance to assessment
	The NNNPS applies the same aims with respect to decision making (para. 5.241) as both NPSE, ANPS, and the HENPS. It states (para. 5.233) that operational noise, with respect to human and structural receptors, should be based the methods described in Calculation of Road Traffic Noise[15] for roads, and Calculation of Railway Noise[16] for railways, or any official published succession to these methodologies. For roads, the succession methodology is Highways England's *Design Manual for Roads and Bridges* (DMRB)[17]. It also states (para. 5.234) that the *"…applicant should consult Natural England with regard to assessment of noise on designated nature conservation sites, protected landscapes, protected species or other wildlife. The results of any noise surveys and predictions may inform the ecological assessment. The seasonality of potentially affected species in nearby sites may also need to be taken into account".*
National Planning Policy Framework (NPPF) 2026[18]	Under Sustainable Policy TR7 relating to airports and other aviation facilities, the NPPF states: *"2. All development proposals to which this policy applies should have an acceptable environmental effect in terms of noise, air quality, greenhouse gas emissions, the transport network, landscape, visual and marine impacts, taking into account any applicable standards and relevant national decision-making policies in this Framework".* Under National decision-making Policy "*P3: Living conditions and pollution*", the NPPF states: *"1. Development proposals should be appropriate for their location, taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, whether these effects are on or off-site; and whether this is as a result of the development itself or the product of preexisting conditions in its vicinity. In assessing the potential effects of pollution, consideration should be given to the potential sensitivity of the site, and its intended occupiers and users, as well as that of the*

[15] Department for Transport 1988. Calculation of Road Traffic Noise. Published 1988.
[16] Department for Transport 1995. Calculation of Rail Noise. Published 1995.
[17] Highways England 2020. Design Manual for Roads and Bridges, LA 111 Noise and vibration, Rev. 2. Published May 2020. Available at: https://www.standardsforhighways.co.uk/tses/attachments/by-attachment-id/4b6c3ac3-c00d-41f2-8531-4744d1ed0a7c?inline=true (accessed on 26/06/2026).
[18] Ministry of Housing, Communities and Local Government 2026. National Planning Policy Framework. Published August 2026. Available at: https://www.gov.uk/guidance/national-planning-policy-framework (accessed on: 26/08/2026).

Relevant Policy	Relevance to assessment
	environment and population in the surrounding area (including where certain groups could be particularly vulnerable to its effects, such as children and older people). *2. Within this context development proposals should:* *a. Provide healthy living conditions for occupiers and users in terms of adequate access to light and avoiding exposure to levels of air, noise, artificial light or other sources of pollution which could have an unacceptable adverse effect on health and the quality of life. Where necessary suitable mitigation measures should be incorporated to secure acceptable living conditions;* *b. Not give rise to, or contribute to, an unacceptable level of access to daylight and sunlight for neighbouring residents and occupiers, or unacceptable levels of air, noise, artificial light, water, soil or other forms of pollution on or beyond the site. Adverse impacts of this nature should be avoided where possible, or else mitigated to an acceptable degree. Where possible, opportunities should be taken to reduce pollution affecting the wider area (such as through traffic and travel management or improved external lighting);…* *… d. Mitigate and reduce to a minimum potential adverse impacts resulting from noise, not result in levels of noise exposure which would have a significant observed adverse effect, and maintain the character of tranquil areas (those areas that have remained relatively undisturbed by noise from human sources and are prized for their recreational and amenity value for this reason);…"* The NPPF refers to Significant observed adverse effect level. The Planning Practice Guidance – Noise (PPG-N)[61] provides guidance on defining the level of noise exposure that is unacceptable for a development proposal with respect to the above.
Policy – Regional	
Greater London Authority (GLA) - The London Plan 2021[19]	The statutory spatial development strategy for Greater London, outlining the Mayor's vision for sustainable growth and development over the next 20–25 years. Policy T8 Aviation states: *"B The environmental and health impacts of aviation must be fully acknowledged and aviation-related development proposals should*

[19] Greater London Authority, 2021. The London Plan. Published March 2021. Available at: https://protect.checkpoint.com/v2/r02/___https:/www.london.gov.uk/programmes-strategies/planning/london-plan/london-plan-2021___.YzJlOmJpY2tlcmRpa2VhbGxlbnBhcnRuZXJzbGxwMTpjOm9mZmljZTM2NV9lbWFpbHNfYXR0YWNobWVudDo5ZDg5N2NjZGFkNjExY2VmNmFmYTY4YWRlNDQxOTU4MTo3OjhkNTk6YmI2MTA4NmY3MTJmNjc5MDYwZmZjYjRlMzAyMzdmZTllZmM3MzdiNzU1OTE2MjM0ZTU3ZWUwMDY1ZWIxZmQ1NDpwOkY6Rg (accessed on 26/06/2026).

Relevant Policy	Relevance to assessment
	include mitigation measures that fully meet their external and environmental costs, particularly in respect of noise, air quality and climate change. Any airport expansion scheme must be appropriately assessed and if required demonstrate that there is an overriding public interest or no suitable alternative solution with fewer environmental impacts. *C The Mayor will oppose the expansion of Heathrow Airport unless it can be shown that no additional noise or air quality harm would result, and that the benefits of future regulatory and technology improvements would be fairly shared with affected communities.* *E Development proposals that would lead to changes in airport operations or air traffic movements must take full account of their environmental impacts and the views of affected communities. Any changes to London's airspace must treat London's major airports equitably when airspace is allocated".* It states (para. 10.8.4): *"Any airport expansion proposals should only be taken forward on the basis that noise impacts are avoided, minimised and mitigated, and proposals should not seek to claim or utilise noise improvements resulting from technology improvements unrelated to expansion. Nor should expansion result in significant numbers of new people being exposed to new or additional noise harm".*
Greater London Authority (GLA) – Draft London Plan 2026[20]	Draft replacement for the 2021 plan[19] providing the statutory spatial development strategy for Greater London for the next 20 years. Under "*Development Management*", Policy GLE9 Aviation states: *"B. Proposals for expansion at Heathrow and other airports should be refused unless no unacceptable environmental, transport, and congestion impacts are demonstrated….* *E. Aviation-related proposals that result in a change in airport operations or air traffic movements should be assessed against the policies of this Plan and should:* *(1) assess and fully address their environmental and health impacts* *(2) fairly share the benefits with local and affected communities* *(3) contribute towards sustainable surface access, demonstrating that any additional trips will be made by public transport, walking and*

[20] Greater London Authority, 2026. Draft London Plan. Published July 2026. Available at: https://www.london.gov.uk/sites/default/files/2026-07/Draft%20London%20Plan%202026%20web%20version.pdf (accessed on 28/08/2026).

Relevant Policy	Relevance to assessment
	cycling, and that transport networks can accommodate the additional demand alongside forecast background growth, and *(4) engage with local communities and other stakeholders to consider all impacts and their mitigation*". The policy also states: *"In implementing this policy, applicants, plan-makers, decision-makers and others (as relevant) should take account of the following:* *4.77 The London Plan is important and relevant to the determination of an application for development consent alongside the NPPF and relevant local plan policies, with the Airports National Policy Statement (ANPS) as the primary decision-making framework…* *4.79 Future regulatory and technology improvements have the potential to reduce an airport's environmental footprint and can allow for more flights without any increase in environmental impacts. These and any other benefits from the aviation sector should be fairly shared with communities…* *4.83 …there can be significant environmental and health impacts associated with aviation from …noise (both averaged over a period and from individual events)…The policies require that these environmental and health impacts should be fully assessed and effectively addressed".*
Greater London Authority (GLA) - The London Environment Strategy 2018[54]	This provides a strategy to integrate approaches ambient noise in London's environment. It includes objectives, policies and proposals related to noise. Objective 9.1 is to reduce the adverse impacts of noise by targeting locations with the highest noise pollution from transport. Policies 9.1.1 and 9.1.2 are to minimise the adverse impacts of noise from London's road transport network and to minimise the adverse impacts of noise from non-road transport respectively Proposal 9.1.2.c states that *"The Mayor will oppose any expansion of Heathrow Airport that would result in additional environmental harm".* Proposal 9.1.2.e states that *"The Mayor will continue to lobby to minimise the adverse impacts of noise from aviation"*.
Policy – Local	
Multiple West London Boroughs - West London Strategic	This plan, developed by seven West London boroughs, is a guiding framework that outlines the vital cross-borough infrastructure needed

Relevant Policy	Relevance to assessment
Infrastructure Delivery Plan 2022[21]	to support sustainable housing, commercial growth, and net-zero carbon goals across west London through the 2040s. It acknowledges that major transport corridors and heavy traffic arteries driving regional growth also create severe environmental challenges, specifically linking key road networks (such as the M4 and A4) to localised noise pollution constraints that must be factored into future development and mitigation strategies.
London Borough of Hillingdon – Local Plan 2012-2020[22]	Policy T4: 'Heathrow Airport' of this Local Plan states that *"Recognising the economic importance of the airport to the borough … will support the sustainable operation of Heathrow within its present boundaries and growth in the Heathrow Opportunity Area by facilitating improvements to public transport and cycle links, enhancing the public transport interchange to provide the opportunity for a modal shift from the use of private cars and from short haul air to sustainable transport modes and providing transport infrastructure to accommodate economic and housing growth whilst improving environmental conditions, for example noise and local air quality for local communities".* It states (para. 9.35): *"Whilst recognising the economic importance of the airport to the borough, the Council remains firmly opposed to any proposal to expand Heathrow Airport beyond its present boundaries".* Policy EM8 'Land, Water, Air and Noise' states: *"Noise* *The Council will investigate Hillingdon's target areas identified in the Defra Noise Action Plans, promote the maximum possible reduction in noise levels and will minimise the number of people potentially affected.* *The Council will seek to identify and protect Quiet Areas in accordance with Government Policy on sustainable development and other Local Plan policies.* *The Council will seek to ensure that noise sensitive development and noise generating development are only permitted if noise impacts can be adequately controlled and mitigated".*
London Borough of Hounslow -	Policy EC3 'Heathrow Airport' of this Local Plan states "*We will encourage a more sustainable Heathrow Airport by working with the*

[21] West London Alliance (WLA) 2022. West London Strategic Infrastructure Delivery Plan 2021-40, Final Report. Published March 2022. Available at: https://wla.london/wp-content/uploads/2022/03/WLA-Strategic-IDP-FINAL.pdf (accessed 21/07/2026).
[22] London Borough of Hillingdon 2012-2020. Local Plan - Part1 (2012), Part 2 (2020), Policy Map (2020), and Examination of the Local Plan Part 2 (2019). Published 2012 – 2020. Available at: https://pre.hillingdon.gov.uk/planning-policy/local-plan-review (accessed 21/07/2026).

Relevant Policy	Relevance to assessment
Local Plan 2015[23] Hounslow Local Plan 2020-2041 (Regulation 19 proposed submission version) 2024[24]	*airport operator and other partners to reduce environmental impacts, whilst recognising the role of the airport in the local economy.* *We will achieve this by:* *(a) Opposing the future expansion of Heathrow Airport, including additional runway and terminal capacity;* *(b) Opposing the removal of the air transport movement limit at Heathrow Airport of 480,000 per annum;* *(c) Giving due consideration to the International Civil Aviation Authority's Guidance on the Balanced Approach to Aircraft Noise Management when making decisions regarding the airport or those parts of the borough effected by the airport;* *(d) Considering the outcomes of the government's Airports Commission with regard to Heathrow Airport, and respond by revising the borough's spatial strategy if necessary;* *(e) Promoting increased surface access provision to Heathrow Airport, by working with partners to improve public transport connections and cycle infrastructure, and utilising the road network more efficiently;* *(f) Supporting initiatives that promote modal shift towards the more sustainable forms of transport to and from Heathrow Airport; and* *(g) Recognising and utilising the important role Heathrow Airport plays in stimulating economic growth in the borough.* *We will expect development proposals to* *(h) Demonstrate that air and noise pollution from aircraft movements, the airport's infrastructure and transport to and from the airport avoid adverse impacts on the borough;* *(i) Assess and illustrate the noise impacts of any development proposal, including the use of alternative noise metrics (i.e. alternative in addition to the dB L_{Aeq16h});…* *(k) Demonstrate that adverse impacts on the Green Belt, Metropolitan Open Land, open space and biodiversity are avoided…".* Policy EQ5 'Noise' states: *"We will seek to reduce the impact of noise from aviation, transport and noise-generating uses, and require the location and design of*

[23] London Borough of Hounslow 2015. Hounslow Local Plan 2015 to 2030 (2 vols). Published September 2015. Available at: https://www.hounslow.gov.uk/local-plan/local-plan-1 (accessed 21/07/2026).
[24] London Borough of Hounslow 2024. Hounslow Local Plan 2020 – 2041 Proposed Submission Version (Regulation 19). Published July 2024. Available at: https://www.hounslow.gov.uk/local-plan/local-plan-review/6 (accessed 21/09/2026).

Relevant Policy	Relevance to assessment
	new development to have considered the impact of noise, and mitigation of these impacts, on new users and surrounding uses according to their sensitivity. *We will achieve this by* *(a) Assessing the potential noise impacts of development proposals where they are located near to noise-sensitive uses (such as housing) or existing sources of noise;* *(b) Directing noise-sensitive development to locations outside those areas identified where noise exposure is likely to cause adverse effects in terms of public health and well-being and children's cognitive learning in schools;…* *…We will expect development proposals to…* *(j) Be located outside of the 69 dB LAeq 16hrs noise contour of Heathrow Airport where noise-sensitive uses (i.e. residential, nursing/care homes, schools/educational establishments, hospitals/healthcare facilities) are proposed, consistent with Section 2 of the International Civil Aviation Organisation (ICAO) Balanced Approach to Aircraft Noise Management which directs residential developments outside this contour".* Both of these policies are generally unchanged in Regulation 19 proposed submission version of the Hounslow Local Plan 2020-2041[24].
London Borough of Ealing - Development Strategy 2026, Development Plan Document 2012[25] Development Management, Development Plan Document 2013[26]	These documents set out London Borough of Ealing's policies for the future development of the borough to reduce the environmental impact of activities within the borough, protecting and improving ambient noise levels. Policy 1.1 'Spatial Vision for Ealing 2026' of the Development Strategy[25] includes the following: *"(j) To reduce the environmental impact of activities within the borough, protecting and improving air quality and ambient noise levels, achieving and maintaining a clean and healthy environment for all communities to enjoy".*

[25] London Borough of Ealing 2012. Development Strategy 2026 Development Plan Document. Published April 2012. Available at: https://www.ealing.gov.uk/downloads/download/7530/development_or_core_strategy_dpd (accessed 21/07/2026).
[26] London Borough of Ealing 2013. Development Management Development Plan Document. Published December 2013. Available at: https://www.ealing.gov.uk/downloads/download/7533/development_management_dpd (accessed 21/07/2026).

Relevant Policy	Relevance to assessment
Draft Local Plan 2024[27]	Chapter 1 states *"…new development will be expected to contribute to improving the quality of life in the borough through the reduction of noise pollution, protecting soundscape quality…"*[25].
The Royal Borough of Windsor and Maidenhead - Local Plan 2022[28]	This Local Plan sets out a spatial strategy and policies for managing development and infrastructure to meet the environmental, social and economic opportunities and challenges facing the area up to 2033. It notes (para. 13.8.3) that the borough has mapped areas where environmental noise is considered to be or is likely to be significant. These are all developments within 50 m of railway lines, within 100 m of all A-roads and motorways, and (owing to Heathrow Airport operations) within all the wards of Windsor, Datchet, Old Windsor, Horton and Wraysbury, Eton Wick which will "…be affected by high levels of environmental noise".
Slough Borough Council - Slough Local Development Framework – Core Strategy 2008[29]	The Core Strategy is the overarching strategic policy document in the Local Development Framework that sets out the policies and guidance to govern the spatial planning of Slough to 2026 It notes (para. 2.28) that *"BAA also has proposals to build a third runway at Heathrow which would also be very close to the Borough boundary. This would result in a worsening in noise and air quality in the eastern part of Slough as well as a general increase in congestion. The council has taken account of this as a possible constraint in preparing the Core Strategy".* Core Policy 8 'Sustainability and the Environment' states: *"3. Pollution* *Development shall not:* *a) Give rise to unacceptable levels of pollution including air pollution, dust, odour, artificial lighting or noise;* *b) Cause contamination or a deterioration in land, soil or water quality; and*

[27] London Borough of Ealing 2024. Ealing's Local Plan - Final Proposals (Regulation 19). Published February 2024. Available at: https://ealing.moderngov.co.uk/documents/g6325/Public%20reports%20pack%20Wednesday%2028-Feb-2024%20Ealings%20Draft%20Local%20Plan%20Regulation%2019%20Consultation%20D.pdf?T=10 (accessed 21/09/2026).
[28] Royal Borough of Windsor and Maidenhead 2022. Borough Local Plan 2013 – 2033. Published February 2022. Available at: https://www.rbwm.gov.uk/planning-and-building-control/planning-policy/development-plan/adopted-local-plan (accessed 21/07/2026).
[29] Slough Borough Council 2008. Slough Local Development Framework, Core Strategy 2006 - 2026. Published December 2008. Available at: https://www.slough.gov.uk/downloads/download/581/development-plan-core-strategy-2006---2026 (accessed 21/07/2026).

Relevant Policy	Relevance to assessment
	c) Be located on polluted land, areas affected by air pollution or in noisy environments unless the development incorporates appropriate mitigation measures to limit the adverse effects on occupiers and other appropriate receptors".
Buckinghamshire Council (prev. South Bucks District Council) - South Bucks Core Strategy 2011[30] South Bucks District Local Plan 1999[31] Draft Local Plan for Buckinghamshire 2024-2045 2026[32]	South Bucks District Council no longer exists as an independent planning authority and was merged into the Buckinghamshire Council unitary authority in April 2020. Planning decisions in the South Bucks area are currently guided by the South Bucks District Local Plan (1999) and the South Bucks Core Strategy (2011). The Core Strategy from 2011 (para 3.5.17) states: *"The Council will minimise exposure to noise by directing new development away from existing sources of noise (such as major roads and certain commercial processes). Where this is not possible, appropriate mitigation will be required. The coalition Government has decided not to proceed with the planned expansion of Heathrow Airport. Nevertheless, the Council will continue to work closely with other affected local authorities to ensure that noise and other environmental impacts from the airport are minimised".* The 2026 Draft Local Plan for Buckinghamshire 2024-2045 includes policy NE21: 'Pollution, air quality and contaminated land' which states: *"Noise Pollution* *Significant noise-generating development will be required to minimise the impact of noise on the occupiers of proposed buildings, neighbouring properties and the surrounding environment.* *Applicants may be required to submit a noise impact study or to assess the effect of an existing noise source upon the proposed development, prior to the determination of a planning application.* *Developments likely to generate more significant levels of noise will be supported only where appropriate noise attenuation measures are incorporated which would reduce the impact on the surrounding land uses, existing or proposed and sensitive human and animal*

[30] South Bucks District Council 2011. South Bucks Local Development Framework, Core Strategy, Development Plan Document. Published February 2011. Available at: https://www.buckinghamshire.gov.uk/planning-building-and-environment/policy-breaches-and-enforcement/local-planning-guidance/local-development-plans/ (accessed 21/07/2026).
[31] South Bucks District Council 1999. South Bucks District Local Plan. Published March 1999. Available at: https://www.buckinghamshire.gov.uk/planning-building-and-environment/policy-breaches-and-enforcement/local-planning-guidance/local-development-plans/ (accessed 21/07/2026)
[32] Buckinghamshire Council 2026. Draft Local Plan for Buckinghamshire 2024-2045 Regulation 19 Publication Version. Published July 2026. Available at: https://www.buckinghamshire.gov.uk/planning-building-and-environment/policy/buckinghamshire-local-plan/reg-19-consultation/ (accessed 21/09/2026).

Relevant Policy	Relevance to assessment
	receptors, to acceptable levels in accordance with Government guidance".
Spelthorne Borough Council - Spelthorne Local Plan 2024[33]	Spelthorne Borough Council also has responsibility for general planning and local development plans for Surrey County Council. Policy SP7: 'Heathrow Airport' of this Local Plan states *"1) The Council will support a future expansion at Heathrow Airport if it is undertaken in a sustainable and integrated way by:* *(a) working strategically with local authorities around Heathrow Airport.* *(b) permitting development proposals outside the airport or Development Consent Order (DCO) Limits boundary in the Borough for Airport Supporting Development (ASD), particularly those that support economic development if they…* *• ensure safeguards are in place to mitigate air, noise, light and other pollution in the Borough…* *4) The Council will seek the support of BAA, the government and relevant statutory authorities for the following measures:* *(a) maintenance of the use of noise preferential routes;* *(b) controls on flying at night that will achieve a progressive improvement in the night noise climate, including a limit on the total number of flights at night and;* *(c) maintenance of existing controls on ground noise."* With respect to *"Development Close to Heathrow and Noise from Heathrow"*, the policy states: *"5) The Council will seek to minimise the adverse impact of development close to Heathrow by:* *(a) refusing new residential development where aircraft noise levels are at or exceed 66 dB L_{Aeq}; except in the case of the one-for-one replacement of dwellings and;* *(b) requiring appropriate attenuation measures for development between 60 and 65 dB L_{Aeq}".*
Runnymede Borough Council - Runnymede	This Local Plan sets out the key planning policies which determine the location, scale and timing of new development in the Borough in the period up to 2030.

[33] Spelthorne Borough Council 2026. Spelthorne Local Plan 2024–2039/40. Published March 2026. Available at: https://www.spelthorne.gov.uk/page/1383/local-plan-march-2026 (accessed 21/07/2026).

Relevant Policy	Relevance to assessment
2030 Local Plan[34]	Policy EE2 'Environmental Protection' states: "*Development proposals resulting in or being subject to external noise impacts above Lowest Observed Adverse Effect Level will be expected to implement measures to mitigate and reduce noise impacts to a minimum.* *Development proposals resulting in or being subject to external noise impacts above Significant Observed Adverse Effect Level will not be supported unless it can be clearly demonstrated that the social and economic benefits of the proposal outweigh noise impacts and unless the scheme's design and layout has been optimised to avoid, mitigate and reduce impacts to a minimum.* *Proposals which have or would be subject to unacceptable adverse effects will not be supported.* *Proposals will need to consider the effects of external noise on outside amenity and where possible incorporate opportunities to create areas of relative tranquillity or areas which offer respite from high ambient noise levels.* *In considering measures to avoid, mitigate and reduce noise impacts, proposals will need to consider the basic principles of noise control:* • Separate noise sources from sensitive receptors; • Control the noise at source; and • Protect the receptor. *For all proposals resulting in or being subject to external noise impacts above Lowest Observed Adverse Effect Level, a noise or acoustic assessment will need to be submitted which demonstrates the avoidance, mitigation or reduction measures identified are the most appropriate and capable of implementation".*
London Borough of Richmond upon Thames - Richmond upon Thames Local Plan (2024 to 2039)[35]	The Local Plan sets out a 15-year strategic vision, objectives and the spatial strategy. With respect to Heathrow Airport, the plan states: *"2.44 The Council, in line with the Mayor of London, strongly opposes any further expansion at Heathrow and supports*

[34] Runnymede Borough Council. Runnymede 2030 Local Plan. Published July 2020. Available at: https://www.runnymede.gov.uk/planning-policy/runnymede-2030-local-plan (accessed 21/09/2026).
[35] London Borough of Richmond upon Thames. Richmond upon Thames Local Plan 'The best for our borough' (2024 to 2039). Published October 2025. Available at: https://www.richmond.gov.uk/adopted_local_plan (accessed 21/09/2026).

Relevant Policy	Relevance to assessment
	measures to minimise the impacts of Heathrow, particularly on traffic, noise and air quality. *2.45 The Council's position on Heathrow is set out in the Corporate Plan 2022 – 2026.This sets out that the Council remain opposed to the Government's decision to expand Heathrow Airport, a third runway and further night flights, and that we will continue to work with other local authority partners, Greenpeace and the Mayor of London, to draw attention to the significant impacts on residents' lives.* *2.46 The Council's Local Plan does not contain a policy on Heathrow as the airport does not lie within the borough boundary. However, in commenting on any planning application in relation to Heathrow Airport, the above statement sets out clearly the Council's position on Heathrow".* Policy 53 'Local Environmental Impacts' states: *"A. The Council will seek to ensure that local environmental impacts of all development proposals do not lead to detrimental effects on the health, safety and the amenity of existing and new users or occupiers of the development site, or the surrounding land. These potential impacts can include, but are not limited to, air pollution, noise and vibration, light pollution, odours and fumes, solar glare and solar dazzle as well as land contamination.* *B. Developers should follow any guidance provided by the Council on local environmental impacts and pollution as well as on noise generating and noise sensitive development. Where necessary, the Council will set planning conditions to reduce local environmental impacts on adjacent land uses to acceptable levels.* *C. In accordance with London Plan Policy D13 Agent of Change, the Council will apply the Agent of Change principle, which places the responsibility for mitigating impacts from existing noise and other nuisance-generating activities or uses firmly on the proposed new development sensitive to noise and other nuisances".*

Table 20-2: Legislation relevant to the Noise and Vibration assessment

Relevant Legislation	Relevance to assessment
Legislation – International	

Relevant Legislation	Relevance to assessment
EU Environmental Noise Directive 2002/49/EC[36]	The Environmental Noise Directive (END) concerning the assessment and management of environmental noise from transport came into effect in June 2002. Its aim was to define a common approach across the European Union with the intention of avoiding, preventing or reducing on a prioritised basis the harmful effects, including annoyance, due to exposure to environmental noise. This involves: • Informing the public about environmental noise and its effects; • Preparation of strategic noise maps for large urban areas ('agglomerations'), major roads, major railways and major airports as defined in the END; and • Preparation of action plans based on the results of the noise mapping exercise.
EU Regulation 598/2014[37]	This regulation governs how aircraft noise is managed at airports across the EU and the UK. It mandates the ICAO 'Balanced Approach' for handling aircraft noise.
Legislation - National	
The Environmental Noise (England) Regulations 2006[38]	The regulations implement the EU Environmental Noise Directive (END) 2002/49/EC relating to the assessment and management of environmental noise. They impose the requirement for agglomerations and qualifying airports, including Heathrow Airport, major roads, and railways to undertake noise mapping on a five-yearly cycle and to prepare Noise Action Plans. The regulations define the daytime period for noise assessment as 07:00 to 23:00 hours and the night-time period as 23.00 to 07.00 hours.
The Airports (Noise-related Operating Restrictions)	The 2018 regulations designate the Secretary of State for Transport as the competent authority for the purposes of EU Regulation 598/2014 (EU 598)[37].

[36] European Commission 2002. Directive 2002/49/EC Directive of the European Parliament and of the Council of 25th June 2002 relating to the assessment and management of environmental noise. Published June 2002. Available at: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002L0049&from=EN (accessed on 26/06/2026).
[37] European Commission 2014. Regulation (EU) No 598/2014 of the European Parliament and of the Council of 16 April 2014 on the establishment of rules and procedures with regard to the introduction of noise-related operating restrictions at Union airports within a Balanced Approach and repealing Directive 2002/30/EC. Published April 2016. Available at: https://eur-lex.europa.eu/legal-content/sv/ALL/?uri=CELEX:32014R0598 (accessed on 26/06/2026).
[38] The Environmental Noise (England) Regulations 2006 (SI 2006/2238). Published October 2006. Available at: https://www.legislation.gov.uk/uksi/2006/2238/contents/made (accessed on 26/06/2026).

Relevant Legislation	Relevance to assessment
(England and Wales) Regulations (2018)[39] The Aviation Noise (Amendment) (EU Exit) Regulations (2019)[40]	Following the UK exit from the EU, the 2019 regulations amend EU 598 to ensure that domestic legislation continues to operate effectively as part of retained EU law. EU 598 gives legal effect to the ICAO Balanced Approach to Aircraft Noise Management (the 'Balanced Approach'). The approach to defining noise mitigation measures for the Proposed Development will be developed in line with EU 598 as amended by The Aviation Noise (Amendment) (EU Exit) Regulations 2019.
Land Compensation Act 1973[41]	The Land Compensation Act (LCA) allows property owners to claim compensation for a drop in property value caused by 'physical factors' including noise and vibration resulting from the use or alteration of public works like new roads, railways, or aerodromes.
Noise Insulation Regulations 1975[42] and Noise Insulation (Amendment) Regulations 1988[43]	These regulations set out road traffic noise criteria to define dwellings which are significantly affected by the introduction of a new highway or changes to a highway scheme where the noise level rises above a certain value as a result of the change in traffic flow. Dwellings exposed to road traffic noise levels above these criteria must be offered sound insulation works.
Noise Insulation (Railways and Other Guided Transport Systems) Regulations 1996[44]	The Regulations require transport authorities to provide mandatory noise insulation or grants to eligible residential properties, and apply when new or significantly modified railway, tram, or guided transport lines subject homes to high noise levels. Criteria include noise limits (and location), and 'Effective Contribution' where the new or modified transport works must contribute at least 1 dB to the overall noise level.

[39] The Airports (Noise-related Operating Restrictions) (England and Wales) Regulations 2018 (SI 2018/785). Published July 2018. Available at: https://www.legislation.gov.uk/uksi/2018/785/contents (accessed on 26/06/2026).
[40] The Aviation Noise (Amendment) (EU Exit) Regulations 2019 (SI 2019/643). Published March 2019. Available at: https://www.legislation.gov.uk/uksi/2019/643/contents/made (accessed on 26/06/2026).
[41] Land Compensation Act 1973. Published May 1973. Available at: https://www.legislation.gov.uk/ukpga/1973/26/contents (accessed on 26/06/2026).
[42] The Noise Insulation Regulations 1975. Published October 1975. Available at: https://www.legislation.gov.uk/uksi/1975/1763/contents/made (accessed on 26/06/2026).
[43] The Noise Insulation (Amendment) Regulations 1988. Published November 1988. Available at: https://www.legislation.gov.uk/uksi/1988/2000/made (accessed on 26/06/2026).
[44] The Noise Insulation (Railways and Other Guided Transport Systems) Regulations 1996 (SI 1996/428). Published March 1996. Available at: https://www.legislation.gov.uk/uksi/1996/428/contents/made (accessed on 26/06/2026).

Relevant Legislation	Relevance to assessment
Control of Pollution Act 1974[45]	The Control of Pollution Act 1974 provides a means for regulating construction noise and vibration. Section 60 sets out the legal powers of a Local Authority to control construction noise. The Local Authority, in acting under this section, would ensure that best practicable means are employed to minimise noise and vibration. Under Section 61, the person undertaking the construction works may apply for prior consent from the Local Authority over the method by which the works will be carried out and the steps proposed to minimise noise and vibration resulting from the works..
Civil Aviation Act 1982[46]	Provides powers to set noise controls at specific airports which the government designates for noise management purposes (which includes Heathrow).
Civil Aviation Act 2006[47]	The Act included several measures aimed at strengthening the powers available to control noise at airports. These included provisions for airport operators to set charges for an aircraft or a class of aircraft based on the noise it causes or the emissions it produces. The Act also gave airport operators statutory powers to introduce noise control schemes for the purpose of avoiding, limiting or mitigating the effect of noise connected with the taking off or landing of aircraft. These could include penalties for straying from agreed flight paths that minimise the number of people affected by noise, fines for aircraft that breach noise controls and restrictions on aircraft of specified descriptions. Any income from penalty schemes would have to be put towards projects that benefit the local community.
Civil Aviation Act 2012[48]	The Act placed a new duty on the Civil Aviation Authority to make information about the environmental performance of the aviation sector available to the general public and measures taken to limit adverse environmental effects.

[45] Control of Pollution Act 1974. Published July 1974. Available at: https://www.legislation.gov.uk/ukpga/1974/40 (accessed on 26/06/2026).
[46] Civil Aviation Act 1982, c16. Published May 1982. Available at: https://www.legislation.gov.uk/ukpga/1982/16/contents (accessed on 26/06/2026).
[47] Civil Aviation Act 2006, c34. Published November 2006. Available at: https://www.legislation.gov.uk/ukpga/2006/34/contents (accessed on 26/06/2026).
[48] Civil Aviation Act 2012, c19. Published December 2012. Available at: http://www.legislation.gov.uk/ukpga/2012/19/contents/enacted (accessed on 26/06/2026).

Relevant Legislation	Relevance to assessment
Environmental Protection Act 1990[49]	Under the Act, local authorities in the UK are empowered to investigate complaints regarding noise that qualifies as a statutory nuisance. For noise to meet this threshold, it must significantly interfere with the use and enjoyment of your property or be prejudicial to health. For noise to qualify as a Statutory Nuisance, it must cross the threshold of being an unreasonable and continuous disturbance. The Act does not apply to aviation noise. Under Section 79(6), noise caused by civil aircraft is explicitly exempted from being classified as a statutory nuisance.
Transport Act 2000[50]	The Act establishes statutory frameworks covering air traffic services, local transport planning, bus services, road-user charging and certain railway matters. In the noise context, some provisions allow local transport authorities to introduce particular transport or bus measures that reduce or limit traffic congestion, noise or air pollution. It does not, however, impose a general duty on authorities to reduce noise from all roads, railways and aircraft. For aviation, the Act provides part of the statutory framework governing the CAA's air-navigation functions and the regulation of air traffic services. Under section 70, the CAA must take account of environmental guidance issued by the Secretary of State when exercising its air-navigation functions. Section 39 also enables the Secretary of State to direct air traffic services licence holders or authorised persons to prevent or deal with, or to limit or mitigate, noise, vibration, pollution or other disturbance attributable to civil aircraft.
Planning Act 2008[51]	The Act governs Nationally Significant Infrastructure Projects (NSIPs) in England and Wales, and sets out the thresholds above which certain types of infrastructure projects are considered to be NSIPs. Instead of standard planning permission, NSIPs require Development Consent Orders (DCOs) which detail strict

[49]Environmental Protection Act 1990, c43. Published November 1990. Available at: https://www.legislation.gov.uk/ukpga/1990/43/part/III/crossheading/statutory-nuisances-england-and-wales (accessed on 26/06/2026).
[50] Transport Act 2000, c38. Published November 2000. Available at: https://www.legislation.gov.uk/ukpga/2000/38/section/113C (accessed on 26/06/2026).
[51] Planning Act 1990, c29. Published November 1990. Available at: https://www.legislation.gov.uk/ukpga/2008/29 (accessed on 26/06/2026).

Relevant Legislation	Relevance to assessment
	requirements, such as construction noise limits, permitted working hours, and operational noise controls. It requires developers to conduct an EIA to evaluate and mitigate adverse noise impacts. It designates National Policy Statements (NPSs) as the primary decision-making frameworks to dictate how noise impacts must be assessed and minimised, weighing them against the socioeconomic benefits of the project.
Planning and Infrastructure Act 2025[52]	The Planning and Infrastructure Act 2025 introduces reforms intended to streamline the planning and consenting of major infrastructure and support the delivery of new development. In particular, it amends the Planning Act 2008 regime for Nationally Significant Infrastructure Projects (NSIPs), including changes to National Policy Statements, pre-application consultation, the acceptance and amendment of applications, and legal challenges.
Localism Act 2011[53]	The Act allows local communities, parish councils, and regional authorities to shape their own ambient noise strategies, planning guidelines, and anti-social behaviour policies. In Greater London the act allows the GLA to combine previously separate documents, including the ambient noise strategy, into a single comprehensive environment strategy[54].
Air Navigation Directions 2026[55]	The Air Navigation Directions 2026 (AND) set out the statutory directions that the CAA must follow when assessing and approving airspace change proposals. This AND is a revision from the directions issued in 2023[56]. This provides the legal framework for the CAA to prepare guidance for airspace change proposals in accordance with ANG 2026[7].

[52] Planning and Infrastructure Act 2025, c34. Published December 2025. Available at: https://www.legislation.gov.uk/ukpga/2025/34 (accessed on 26/06/2026).
[53] Localism Act 2011, c20. Published November 2011. Available at: https://www.legislation.gov.uk/ukpga/2011/20/schedule/23/paragraph/16 (accessed on 26/06/2026).
[54] Greater London Authority, 2018. London Environment Strategy. Published May 2018. Available at: https://www.london.gov.uk/programmes-and-strategies/environment-and-climate-change/london-environment-strategy (accessed on 26/06/2026).
[55] Department for Transport 2026. The Civil Aviation Authority (Air Navigation) Directions 2026. Published August 2026. Available at: https://www.gov.uk/government/publications/uk-air-navigation-directions-2026 (accessed on:26/08/2026).
[56] Department for Transport 2023. The Civil Aviation Authority (Air Navigation) Directions 2023. Published March 2023. Available at: https://www.caa.co.uk/media/lzrl3drs/caa-air-navigation-directions-2023.pdf (accessed on:26/08/2026).

Relevant Legislation	Relevance to assessment
The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017[57]	The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 are UK statutory rules that set out the environmental impact assessment procedures for nationally significant infrastructure projects in England and Wales (such as large energy, transport, water, and waste facilities). The regulations require developers and authorities to evaluate likely significant effects of the development on the environment resulting from noise and vibration.

Table 20-3: Guidance relevant to the Noise and Vibration assessment

Relevant Guidance	Relevance
Guidance - International	
WHO Guidelines for Community Noise 1999[58]	WHO Guidelines for Community Noise provide a range of aspirational noise targets aimed at protecting the health and well-being of the community. They therefore set out noise targets that represent goals for minimising the adverse effects of noise on health, rather than setting absolute noise limits for planning purposes.
WHO Night Noise Guidelines for Europe 2009[59]	Guidance on absolute noise levels at night is given in the WHO Night Noise Guidelines. These report findings from the WHO concerning night noise from transportation sources and its effects on health and sleep. These guidelines acknowledge that the effect of noise on people at night depends not just on the magnitude of noise of a single event but also the number of events.
WHO - Environmental noise guidelines for the European Region2018[60]	The WHO Environmental Noise Guidelines for the European Region provide health-based guideline values intended to reduce the adverse effects of environmental noise on health and quality of life.

[57] The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. Available at: The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (accessed 28/09/2026).
[58] World Health Organisation, 1999. Guidelines for community noise. Published April 1999. Available at: http://apps.who.int/iris/bitstream/handle/10665/66217/a68672.pdf?sequence=1&isAllowed=y (accessed 2/07/2026).
[59] World Health Organisation Europe 2009. Night Noise Guidelines for Europe. Published 2009. Available at: https://www.who.int/europe/publications/i/item/9789289041737 (accessed 2/07/2026).
[60] World Health Organization 2018. Environmental Noise Guidelines for the European Region. Geneva: World Health Organization. Published 2018. Available at: https://www.who.int/europe/publications/i/item/9789289053563 (accessed 9/07/2026).

Relevant Guidance	Relevance
	They set out source-specific recommendations for long-term noise exposure and are intended to inform policy and noise-management decisions, rather than to operate as absolute noise limits or statutory planning standards. The current environmental noise guidelines for the European Region supersede the 1999 WHO Guidelines for Community Noise (CNG). Nevertheless, these 2018 WHO Environmental noise guidelines recommended that all CNG indoor guideline values, and any values not covered by the 2018 guidelines (such as industrial noise and shopping areas), remain valid.
Guidance - National	
Planning Practice Guidance – Noise (PPG-N) 2019[61]	The PPG-N advises local planning authorities on how to evaluate, mitigate, and manage acoustic impacts when designing or assessing new developments. It works alongside the National Planning Policy Framework (NPPF)[1818] to ensure new projects do not suffer from, or cause, unacceptable noise levels. It provides a noise exposure hierarchy in terms of effect level (NOEL, LOAEL, SOAEL, etc.)[3] that can be used to establish whether noise is likely to be a concern. PPG-N also provides a qualitative description for an Unacceptable adverse effect (UAE). The PPG-N guidance is expected to be updated to reflect the 2026 NPPF.
Civil Aviation Publication 2091 CAA Policy on Minimum Standards for Noise Modelling 2021[62]	Establishes the minimum acceptable level of detail for aircraft noise modelling submitted to the CAA in connection with its regulatory functions. It defines five modelling categories, from Category E to the most technically detailed Category A, and applies a proportionate approach under which the required

[61] Ministry of Housing, Communities and Local Government, Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government 2019. Guidance, Noise. Published July 2019. Available at: https://www.gov.uk/guidance/noise--2 (accessed on: 02/07/2026).
[62] Civil Aviation Authority 2021. CAP2091: CAA Policy on Minimum Standards for Noise Modelling. Published 2021. Available at: https://www.caa.co.uk/our work/publications/documents/content/cap2091/ (Accessed 9/07/2026).

Relevant Guidance	Relevance
	category depends principally on the population exposed above the daytime and night-time aviation noise LOAELs. The document addresses details such as the use of local aircraft noise data, radar track information, flight-path dispersion and noise-monitoring data, while also expecting modelling to follow industry good practice, including ECAC Document 29. The CAA recommends Category A modelling for airports designated for noise purposes, including Heathrow.
Aviation Noise Attitudes Survey (ANAS) 2025[63]	ANAS is a large-scale social research study examining the relationship between long-term exposure to aviation noise and annoyance in the UK. The study builds on the Survey of Noise Attitudes (SoNA), 2014[64] and identifies what proportion of a population exposed to specific levels of aviation noise, would be expected to be 'highly annoyed' by it. ANAS indicates that communities are significantly more sensitive to aircraft noise than previously recorded in 2014.
Aviation Night Noise Effects study (ANNE) 2026[65]	ANNE examines how night-time aircraft noise impacts sleep and community well-being. The report published on 10 June 2026 presents only Part One—the subjective study—based on 4,183 survey responses from residents around eight UK airports. The study reveals significantly higher levels of noise annoyance and sleep disturbance than previously estimated[66]. This is not the complete ANNE evidence base: Part Two, the objective sleep study, will relate individual aircraft events and measured bedroom noise to physiologically assessed

[63] Civil Aviation Authority 2025. Aviation Noise Attitudes Survey 2023-2024. Published June 2025. Available at: https://www.caa.co.uk/data-and-publications/publications/documents/content/cap3131/ (accessed on 21/06/2026).
[64] Civil Aviation Authority 2021. Civil Aviation Publication 1506 Survey of Noise Attitudes 2014: Aircraft Noise and Annoyance, Second Edition. Published 2021. Available at: https://www.caa.co.uk/data-and-publications/publications/documents/content/cap1506/ (accessed on 02/07/2026).
[65] Department for Transport 2026. Aviation Night Noise Effects (ANNE) study. Published June 2026. Available at: https://www.gov.uk/government/publications/ (accessed on 21/06/2026).
[66] Civil Aviation Authority 2022. Civil Aviation Publication 2251 Survey of Noise Attitudes 2014: Aircraft Noise and Sleep Disturbance, Further Analysis. Published December 2022. Available at: https://www.caa.co.uk/data-and-publications/publications/documents/content/cap2251/ (accessed on 21/06/2026)

Relevant Guidance	Relevance
	awakenings and is expected to be published later in 2026.
Civil Aviation Publication 1616: Airspace Change Process 2026[67]	CAP 1616 provides procedures and guidance on the development of airspace change proposals for submission to the CAA for assessment.
Civil Aviation Publication 1616j: Requirements and Guidance on the Airspace Change Process for Permanent Airspace Change Proposals 2026[68]	CAP 1616j is the CAA's technical guidance document detailing how environmental and habitat impacts must be assessed during an Airspace Change Proposal (ACP). It outlines the methodologies change sponsors must use to evaluate noise, emissions, and local ecological impacts.
IEMA The Guidelines for Environmental Noise Impact Assessment 2014[69]	Guidelines for evaluating the effects of proposed developments on the acoustic environment. They provide a framework for assessing noise where specific local standards do not exist. These guidelines outline a step-by-step approach to evaluating noise impacts that include Context, Magnitude of Change, and Significance.
Design Manual for Roads and Bridges - Sustainability & Environmental Appraisal LA 111 Noise and Vibration (DMRB LA 111) 2020[17]	LA 111 sets out the requirements for assessing and reporting the effects of highways noise and vibration from construction, operation and maintenance projects. LA 111 includes: • Confirmation that operational road traffic vibration can be scoped out of assessment; • Defined LOAELs and SOAELs for construction noise and vibration, and operational road traffic noise; • Methodology for initial assessment of significance, and a set of additional factors and a

[67] Civil Aviation Authority, 2026). CAP1616: Airspace change Process. Published September 2026. Available at: https://www.caa.co.uk/data-and-publications/publications/documents/content/cap1616/ (accessed on 28/09/2026).
[68] Civil Aviation Authority 2026. CAP1616j: Environmental Assessment Requirements and Guidance for Airspace Change Proposals. Published November 2023. Available at: https://www.caa.co.uk/data-and-publications/publications/documents/content/cap1616j/ (accessed on 28/09/2026).
[69] Institute of Environmental Management and Assessment 2014. The Guidelines for Environmental Noise Impact Assessment. Published November 2014. Available at: CD6.4 Institute of Environmental Management & Assessment (IEMA) Guidelines for Environmental Noise Impact Assessment - November 2014_194885551_1.pdf (accessed 09/07/2026).

Relevant Guidance	Relevance
	description as to how they should influence the final assessment of operational significance; and • A clear statement requiring that the number of properties affected shall not be used to justify change between the initial operational significance and the final operational significance.
ISO 9613-2:2024 Acoustics - Attenuation of Sound During Propagation Outdoors - Part 2: Engineering method for the prediction of sound pressure levels outdoors[70]	ISO 9613 provides a method for predicting the propagation of noise outdoors. It accounts for distance attenuation, air absorption, topography, ground cover and screening and reflections caused by buildings and other features.
BS 5228-1:2009+A1: 2014 Code of practice for noise and vibration control on construction and open sites: Part 1 – Noise[71]	BS 5228-1 provides guidance concerning methods of predicting and measuring construction noise and assessing its impact on those exposed to it.
BS 5228-2:2 Code of Practice for Noise and Vibration Control on Open Construction Sites – Part 2: Vibration[72]	BS 5228-2 provides recommendations for assessing vibration levels in construction and open sites where work activities/operations generate significant vibration.
BS 6472-1:2008 Guide to evaluation of human exposure to vibration in buildings: Vibration sources other than blasting[73]	BS 6472-1 provides guidance on predicting human response to vibration in buildings due to sources like railways, industrial machinery, and construction. It includes methods of assessing continuous, intermittent and impulsive vibration.
BS 6472-2:2008 Guide to evaluation of human exposure to	BS 6472-2 gives guidance on human exposure to blast-induced vibration in buildings. Although it is primarily applicable to blasting associated with mineral extraction, it can be useful in assessing

[70] International Organization for Standardization 2024. ISO 9613-2:2024 Acoustics - Attenuation of Sound During Propagation Outdoors - Part 2: Engineering method for the prediction of sound pressure levels outdoors. Published January 2024. Available at: ISO 9613-2:2024 - Acoustics — Attenuation of sound during propagation outdoors — Part 2: Engineering method for the prediction of sound pressure levels outdoors (accessed 09/07/2026).
[71] British Standards 2014. BS 5228-1:2009+A1:2014 (2009), Code of practice for noise and vibration control on construction and open sites – Noise. Published December 2008. Available at: BS 5228-1:2009+A1:2014 - Code of practice for noise and vibration control on construction and open sites. Noise (accessed 02/07/2026).
[72] British Standards 2014. BS 5228-2:2009+A1:2014 (2009), Code of practice for noise and vibration control on construction and open sites – Vibration. Published December 2008. Available at BS 5228-2:2009+A1:2014 - Code of practice for noise and vibration control on construction and open sites. Vibration (accessed 02/07/2026).
[73] British Standards 2008. BS 6472-1:2008 Guide to evaluation of human exposure to vibration in buildings: Vibration sources other than blasting. Published June 2008. Available at: https://knowledge.bsigroup.com/products/guide-to-evaluation-of-human-exposure-to-vibration-in-buildings-vibration-sources-other-than-blasting (accessed 02/07/2026).

Relevant Guidance	Relevance
vibration in buildings: Blast-induced vibration[74]	other forms of vibration that are caused by blasting, including when explosives are utilized in civil engineering works and in demolition activity.
BS 7385-2:1993 Evaluation and measurement for vibration in buildings – Part 2: Guide to damage levels from ground-borne vibration[75]	BS 7385-2:1993 is the primary British Standard for evaluating ground-borne vibration impacts on structures, specifically building damage caused by sources such as construction, blasting, and traffic.
ISO 14837-1:2005 Mechanical vibration — Ground-borne noise and vibration arising from rail systems, Part 1: General guidance[76]	ISO 14837-1:2005 provides general guidance on ground-borne vibration generated by the operation of rail systems, and the resultant ground-borne noise in buildings.
BS 4142: 2014+A1:2019 Methods for rating and assessing industrial and commercial sound[77]	BS 4142 is used to assess the impact of industrial and commercial sound on people in their homes or other premises used for residential purposes. It is used to assess the impact of proposed new commercial/industrial equipment (e.g., air-conditioning units, extraction systems, factory plant) near existing homes.
BS 8233: 2014. Guidance on sound insulation and noise reduction for buildings[78]	BS 8233:2014 provides guidance on the control of external noise. The standard presents a number of design ranges for indoor and outdoor noise levels for different types of space.
BS 7445-1:2003. Description and measurement of environmental	BS 7445 defines the basic quantities used to describe noise in community environments and

[74] British Standards 2008. BS 6472-2:2008 Guide to evaluation of human exposure to vibration in buildings: Blast-induced vibration. Published June 2008. Available at: https://knowledge.bsigroup.com/products/guide-to-evaluation-of-human-exposure-to-vibration-in-buildings-blast-induced-vibration (accessed 02/07/2026).
[75] British Standards 1993. BS 7385-2:1993 Evaluation and measurement for vibration in buildings – Part 2: Guide to damage levels from ground-borne vibration. Published November 1993. Available at: https://knowledge.bsigroup.com/products/evaluation-and-measurement-for-vibration-in-buildings-guide-to-damage-levels-from-groundborne-vibration (accessed 02/07/2026).
[76] International Organization for Standardization 2005. ISO 14837-1:2005 Mechanical vibration — Ground-borne noise and vibration arising from rail systems
Part 1: General guidance. Published July 2005. Available at: https://www.iso.org/standard/31447.html (accessed 02/07/2026).
[77] British Standards 2019. BS 4142: 2014+A1:2019 Methods for rating and assessing industrial and commercial sound. Published June 2019. Available at: https://knowledge.bsigroup.com/products/methods-for-rating-and-assessing-industrial-and-commercial-sound (accessed 02/07/2026).
[78] British Standards 2014. BS 8233:2014 Sound insulation and noise reduction for buildings – Code of practice. Published February 2014. Available at: https://shop.bsigroup.com/ProductDetail/?pid=000000000030241579 (accessed 02/07/2026).

Relevant Guidance	Relevance
noise - Guide to quantities and procedures[79]	outlines basic procedures for determining these quantities.
Acoustics and Noise Consultants (ANC) Technical Note Construction Noise - A good practice guide to the preparation, submission and management of Section 61 consents, 2021[80]	Guidance on construction noise intended to support a consistent approach to the preparation, submission and management of applications for prior consent under Section 61 of the Control of Pollution Act 1974, including the information and procedures expected for that purpose.
Acoustics and Noise Consultants (ANC) Measurement and Assessment of Groundborne Noise and Vibration (Red Book), 2024[81]	The Red Book provides practical guidelines on the measurement and assessment of groundborne noise and vibration. A wide range of vibration issues and sources is covered with particular attention paid to railway vibration and groundborne noise.
Department of Education BB93[82]	BB93 gives upper limits for indoor ambient noise levels for new and refurbished schools, and schools formed by a material change of use. There is an associated technical design guide published by the IOA and ANC[83].
Department of Health HTM 08-01[84]	HTM 08-1 gives guidance on recommended internal noise levels for healthcare facilities.
ProPG: Planning and Noise 2017[85]	The ProPG provides guidance on a recommended approach to the management of noise within the

[79] British Standards 2003. BS 7445-1:2003. Description and measurement of environmental noise - Guide to quantities and procedures. Published December 2003. Available at: https://knowledge.bsigroup.com/products/description-and-measurement-of-environmental-noise-guide-to-quantities-and-procedures (accessed 02/07/2026).
[80] Association of Noise Consultants 2021. Technical Note: Construction Noise - A good practice guide to the preparation, submission and management of Section 61 consents. Published March 2021. Available at: https://www.association-of-noise-consultants.co.uk/wp-content/uploads/2021/05/ANC-Construction-Noise-Guide-March-2021.pdf (accessed 02/07/2026).
[81] ANC 2024 Measurement and Assessment of Groundborne Noise and Vibration (Red Book). Published January 2024. Available at: https://www.association-of-noise-consultants.co.uk/measurement-and-assessment-of-groundborne-noise-and-vibration/ (accessed 02/07/2026).
[82] Department of Education 2015. Acoustic design of schools: performance standards Building Bulletin 93 (BB93). Published January 2003. Available at: https://www.gov.uk/government/publications/bb93-acoustic-design-of-schools-performance-standards (accessed 02/07/2026).
[83] Acoustics of Schools: a design guide. Available at https://www.ioa.org.uk/sites/default/files/Acoustics%20of%20Schools%20-%20a%20design%20guide%20November%202015_1.pdf (accessed 23/07/2026)
[84] Department of Health 2013. Specialist Services, Health Technical Memorandum 08-01: Acoustics. Published March 2013. Available at: https://www.england.nhs.uk/publication/health-sector-buildings-acoustic-design-requirements-htm-08-01/ (accessed 02/07/2026).
[85] Association of Noise Consultants/Institute of Acoustics/Chartered Institute for Environmental Health 2017. ProPG: Planning & Noise, Professional Practice Guidance on Planning & Noise, New Residential Development. Published May 2017. Available at:. https://www.ioa.org.uk/sites/default/files/14720%20ProPG%20Main%20Document.pdf (accessed 02/07/2026).

Relevant Guidance	Relevance
	planning system in England. The guidance which encourages better acoustic design for new residential development and aims to protect people from the harmful effects of noise.
English Heritage Aviation Noise Metric 2014[86]	Report analysing the impact of airport noise on the historic environment. Includes a methodology to analyse the noise impacts on the setting of heritage assets.
British Council for Offices Guide to Specification 2019[87]	Provides guidance on external noise intrusion levels, and ground-borne noise and vibration levels.

20.3 Stakeholder Engagement

20.3.1.1 Consultation with relevant authorities and stakeholders is planned to be undertaken. As the project progresses, relevant authorities, communities, and stakeholders will be consulted. Details of the stakeholders and consolation process are given **Chapter 4: Approach to EIA**.

20.3.1.2 Engagement will be undertaken throughout the development of the noise and vibration assessment to identify key issues, obtain relevant local and technical information, and seek agreement on technical matters where practicable. In accordance with the draft HENPS, this will include consultation on the overall approach to noise mitigation; the design, metrics, performance targets and review arrangements for the noise envelope; runway alternation and respite arrangements; the detailed operation of the proposed night-flight restrictions; noise insulation, compensation and community compensation arrangements; and the monitoring, securing and enforcement of noise commitments.

20.3.1.3 Engagement will also cover the scope and methodology of the assessment, baseline information, study areas and sensitive receptors, assessment scenarios and modelling assumptions, noise and vibration metrics, cumulative effects, the relationship with the health assessment, and proposed mitigation and monitoring.

[86] English Heritage 2014. Aviation Noise Metric - Research on the Potential Noise Impacts on the Historic Environment by Proposals for Airport Expansion in England, Project No. 6865 Final Report. Published July 2014. Available at: https://historicengland.org.uk/research/results/reports/87-2014 (accessed 03/07/2026).
[87] British Council for Offices (BCO) 2019. Guide to Specification. Published 2019. Available at: https://www.bco.org.uk/publications/about-our-guides/guide-to-specification (accessed 02/07/2026).

20.4 Study Area

20.4.1 Study Area

20.4.1.1 The Study Area for each Noise and Vibration source is based on the largest extent of likely effects. This area varies for each noise and vibration source during the construction and operational phases of the Proposed Development. These are described in the following sections.

Construction noise and vibration

20.4.1.2 The construction noise assessment study areas are as follows:

- A study area of 300m from the closest construction site activity;
- A study area for construction traffic 50m from the kerb line of public roads with the potential for an increase in Baseline Noise Level (BNL) of 1 dB(A) or more because of the addition of construction traffic to existing traffic levels; and
- A study area of 100m from the closest construction activity with the potential to generate vibration is normally sufficient to encompass vibration sensitive receptors.

20.4.1.3 These study areas are considered to be the largest extent of likely effects and are based on guidance from DMRB LA 111[17] consistent with recent major infrastructure projects.

20.4.1.4 If initial noise and vibration assessments, considering reasonably foreseeable worst-case assumptions, identify that likely significant effects could occur outside of these study areas, the study areas will be revised to ensure that the areas are larger than the area where the forecast exposure exceeds the relevant lowest observed adverse effect level LOAEL.

Operational noise and vibration

20.4.1.5 Operational noise assessment study areas for different noise and vibration sources are as follows:

- The aircraft noise study area will be based on the area of the 51 dB $L_{Aeq,16h}$ summer contour for daytime noise and the 45 dB $L_{Aeq,8h}$ summer contour for nighttime noise;
- Current baseline conditions will be based on the 2024 period consistent with policy set out in the draft HENPS[12];
- Future scenarios will include any period of change in air traffic movements prior to opening, for the time of opening, and at the time the airport is forecast to reach full capacity, and at a point when the airport's noise impact is forecast to be highest;
- Aircraft ground and airfield noise study area will be up to 1 km from any ground operations;
- Road and rail traffic on new or altered roads or railways that form part of the Proposed Development noise study area will be based on:

- The area within 600m of new road links or road links physically changed or bypassed by the project;
- The area within 50m of other road links with potential to experience a short term BNL change of more than 1.0 dB(A) as a result of the project; and
- The study area for operational vibration due to rail traffic will be 85m from any operational rail traffic activity forecast to give rise to appreciable vibration.

20.4.1.6 These study areas are considered to be the largest extent of likely effects and are based on guidance from DMRB LA 111[17] consistent with recent major infrastructure projects.

20.4.1.7 Operational vibration due to road traffic is scoped out of the assessment methodology as a maintained road surface will be free of irregularities as part of project design and under general maintenance, so operational vibration will not have the potential to lead to significant adverse effects[17].

20.4.1.8 If initial noise and vibration assessments, considering reasonably foreseeable worst-case assumptions, identify that likely significant effects could occur outside of these study areas, the study areas will be revised to ensure that the areas are larger than the area where the forecast exposure exceeds the relevant LOAEL (i.e. the onset of adverse effects).

20.5 Sources of Data used in Scoping

20.5.1 Baseline Sources

20.5.1.1 Scoping of the noise and vibration section has been based upon the Overview of the Proposed Development described in **Chapter 2: The Proposed Development**.

20.5.1.2 Data sources used for noise and vibration scoping are given in **Table 20-4**.

Table 20-4: Data sources used for scoping

Source	Relevance to the assessment
Heathrow Noise Modelling - Environmental Research and Consultancy Department (ERCD), CAA	Heathrow Airport Annual and Summer Noise Contours and Noise Action Plan Contours 2012 to 2024. The latest report (CAA ERCD 2501) presents the Heathrow 2024 average summer 16-hour day and 8-hour night L_{Aeq} contours, and annual L_{day}, $L_{evening}$, L_{night}, L_{den} and $L_{Aeq,6.5h}$ night Noise Action Plan contours[88].

[88] Civil Aviation Authority 2025. ERCD REPORT 2501: Heathrow Airport 2024 Summer Noise Contours and Noise Action Plan Contours. Published August 2025. ERCD REPORT 2501 - Heathrow Airport 2024 Summer and Noise Action Plan Contours (accessed 2/07/2026).

Source	Relevance to the assessment
Community monitoring – Heathrow Airport Ltd	Airspace Noise and ATM Performance Reports 2021 to 2025, Community noise Reports 2011 to 2025 various locations[89]
Defra Strategic noise mapping	Road and railway noise maps prepared by Defra for the Round 4 Noise Action Plan in 2022[90]

20.6 Baseline conditions

20.6.1 Baseline Description

20.6.1.1 The following section provides a description of the current baseline conditions around Heathrow Airport.

20.6.1.2 A general description of the operation of Heathrow Airport is in **Chapter 3: Description of the Existing Site and its Surroundings**. Existing receptors in the areas around the airport are currently exposed to varying levels of noise (and vibration) from:

- Aircraft noise (including helicopters);
- Aircraft ground noise;
- Transport (road and rail traffic) noise; and
- Operational noise, and noise from other noise sources.

Current operations at the Airport

20.6.1.3 Heathrow Airport is the UK's busiest airport with approximately 1,310 arrivals and departures every day. In 2025, the airport handled approximately 84.5 million passengers and 477,900 Air Transport Movements (ATMs)[91].

20.6.1.4 Heathrow Airport is legally restricted to a maximum of 480,000 ATMs per year[92]. The airport generally operates near this capacity, with its two existing runways at about 98% utilisation.

20.6.1.5 Although Heathrow Airport can operate 24 hours a day, night flights are subject to restrictions with the number and types of aircraft restricted during the designated night quota period (23:30 to 06:00 hours)[92]. During this period there is a limit on

[89] Heathrow Airport Limited, 2026. Reports. Available at: https://www.heathrow.com/company/local-community/noise/data/reports (accessed 2/07/2026).
[90] Department for Environment, Food & Rural Affairs, 2024. Strategic Noise Mapping (2022). Published October 2024. Available at: https://www.gov.uk/government/publications/strategic-noise-mapping-2022 (accessed 2/07/2026).
[91] Civil Aviation Authority (CAA). Annual airport data 2025. Published March 2026. Available at: https://www.caa.co.uk/data-and-analysis/uk-aviation-market/airports/uk-airport-data/uk-airport-data-2025/annual-2025/ (accessed on: 08/09/2026).
[92] Heathrow Airport Limited, 2024. Noise Action Plan 2024-2028 Supporting Annexes. Available at: https://www.heathrow.com/content/dam/heathrow/web/common/documents/company/local-community/noise/making-heathrow-quiter/noise-action-plan/Heathrow_NAP_2024-2028_Supporting_Annexes.pdf (accessed 21/09/2026).

the number of flights allowed and a Noise Quota (NQ) cap. No scheduled freight flights are permitted at night[92].

20.6.1.6 The Airport has two runways - the northern runway (runway 09L during easterly operations and 27R during westerly operations) and the Southern runway (runway 09R during easterly operations and 27L during westerly operations), which run in an approximately east-west direction, four passenger terminals (Terminals 2, 3, 4, and 5), one dedicated cargo facility, and 22 on-airport warehouses.

20.6.1.7 Heathrow Airport is in the London Borough of Hillingdon, approximately 21km west of Central London and has an operational area that covers approximately 10km^2.

20.6.1.8 The local areas to the north, south and east of Heathrow are surrounded by a mix of residential areas, industrial units and commercial uses, but predominantly residential land. The west of the Airport is surrounded by large open spaces including three reservoirs, industrial units and residential areas.

Aircraft noise

20.6.1.9 The most recent noise exposure data available for Heathrow is that for 2024. This is published in ERCD REPORT 2501: *Heathrow Airport 2024 Summer Noise Contours and Noise Action Plan Contours*[88] and the draft HENPS[13].

20.6.1.10 Noise contours as shown in ERCD Report 2501 show that significant populations in the London Boroughs of Hillingdon, Hounslow, Richmond upon Thames and Ealing, as well as communities in Spelthorne, Slough and Windsor and Maidenhead, experience levels of noise exceeding 54 dB $L_{Aeq,16h}$.

20.6.1.11 The baseline noise exposures as a result of operations for 2024 are given in **Table 20-5**.

Table 20-5: Heathrow Airport Aircraft Noise Exposure 2024

Period and metric	Area (km^2)	Population (1000s)	Households (1000s)
Daytime Summer Actual - Noise level exceeding 54 dB $L_{Aeq,16h}$[88]	129.3	400.9	156.2
Night-time Summer Actual - Noise level exceeding 48 dB $L_{Aeq,8h}$[13]	94.1	372.4	147.6
Annual Actual - Noise level exceeding 55 dB L_{den}[88]	148.4	561.6	225.7

20.6.1.12 Additional population data is provided within the draft HENPS which states that the population affected by noise impacts from Heathrow is the highest of any airport in the UK or the European Union, with 359,700 households being subject to daytime

aviation noise at a level of 51 dB $L_{Aeq,16h}$ or more and 305,400 households being subject to nighttime aviation noise at a level of 45 dB $L_{Aeq,8h}$ or more in 2024.

20.6.1.13 The aircraft noise baseline is governed by operational factors which include:

- Westerly and easterly operations – direction of aircraft departures and arrivals;
- Departure and arrival routes;
- 'Westerly preference' where aircraft will land in a westerly direction (making their final approach over London) despite easterly winds to reduce the number of aircraft taking off in an easterly direction over London;
- The airport's four main holding stacks;
- Runway alternation to provide periods of relief from aircraft noise;
- Locations at which aircraft join final approach; and
- Restrictions on night flights.

20.6.1.14 A range of aircraft noise metrics are published to meet the requirements of Heathrow's Airport Noise Action Plan[93]. The most recent data provide Heathrow 2024 average summer 16-hour day and 8-hour night dB L_{Aeq} contours, as well as 2024 annual L_{day}, $L_{evening}$, L_{night}, L_{den} and $L_{Aeq,6.5hr}$ night noise contours, and supplementary metrics including N65 and N70 annual 16-hour day contours and N60 annual 8-hour night contours. These provide additional context on current baseline conditions.

20.6.1.15 Heathrow Airport have a noise monitoring programme which provides more detailed information on noise levels for specific residential and public areas outside the operation airport area. Different locations are selected annually, and a series of reports are produced and published. These Community Noise Reports use metrics that are accessible to those without technical knowledge, with the intent to better reflect people's experience of aircraft noise and are available online[94].

20.6.1.16 Heathrow Airport provide information on their operations online[89]. They also provide a number of online mapping tools:

- WebTrak - Track flights in this map-based tool which provides information on heights, noise levels, departure routes and local weather patterns;
- xPlane – Analyse how Heathrow aircraft fly over a postcode, including the numbers, heights, position and types of aircraft; and
- WebTrak My Neighbourhood - Find out general information about where Heathrow aircraft fly and how often particular flight paths are used.

Aircraft ground noise

20.6.1.17 In addition to airborne noise, there are several sources of ground noise associated with aircraft activity at Heathrow. These include aircraft taxiing, engine run-ups, auxiliary power unit (APU) use, ground handling equipment, construction and maintenance activities, and noise from service yards and logistics areas. Ground

[93] Noise Action Plan 2024-2028. Available at https://www.heathrow.com/company/local-community/noise/making-heathrow-quieter/noise-action-plan (accessed 23/07/2026)
[94] https://www.heathrow.com/company/local-community/noise/data/reports (accessed 23/07/2026).

noise can contribute to overall noise exposure for communities located close to the airport perimeter, particularly in parts of Longford, Harmondsworth, Sipson, Stanwell Moor and Cranford.

Transport (Road and Rail traffic) noise

20.6.1.18 Transport-related noise is a major source of noise around Heathrow Airport. Major road corridors such as the M4, M25, A4 and A30 contribute to elevated traffic noise, alongside increasing freight and logistics activity associated with the airport. Rail noise sources include the Elizabeth Line, Heathrow Express, the Piccadilly Line, Great Western Main Line north of Heathrow and the Windsor Lines through Feltham, Staines and Windsor.

20.6.1.19 Many Noise Important Areas (NIAs) are designated in the vicinity of Heathrow Airport, reflecting the concentration of major road and rail corridors and the high population density of surrounding urban areas. NIAs are identified through strategic noise mapping exercises. They generally represent the top 1% of the population affected by the loudest ambient noise levels in both urban agglomerations and along major transport routes[95].

20.6.1.20 NIAs extend across Heathrow Airport's surrounding communities. These NIAs form an important part of the baseline, indicating where communities already experience significant transport-related noise.

Operational noise and other sources of noise

20.6.1.21 Other noise sources in and around the Airport have localised effects and include noise generated from:

- Noise from operation of the Terminal buildings;
- Operation of the Lakeside 'Energy from Waste' Plant in Colnbrook (adjacent to the M25 motorway);
- Local industrial buildings; and
- Airport maintenance facilities located at the eastern end of the airfield.

Future baseline conditions

20.6.1.22 In the absence of the Proposed Development, the future baseline noise and vibration environment would continue to be influenced by the operation of Heathrow within its existing two-runway configuration, together with changes in aircraft movements, fleet mix, operating procedures and any separately consented airspace changes.

[95] Appraisal of Sustainability (AoS) for the draft Heathrow Expansion National Policy Statement (HENPS) Scoping Report: Technical Annex 2026. Available at https://assets.publishing.service.gov.uk/media/6a34006b00ff27f06e3efa71/aos-for-the-draft-henps-scoping-report-technical-annex.pdf (accessed 23/07/2026).

20.6.1.23 Airborne aircraft noise may therefore differ from the 2024 baseline, notwithstanding the absence of the Proposed Development, and should be defined using the relevant no-development forecasts for each assessment year.

20.6.1.24 Aircraft ground noise would continue to arise from existing runways, taxiways, aprons, aircraft stands, engine ground running, auxiliary power units and ground-handling activities, with changes reflecting forecast airport activity and any committed operational or infrastructure changes.

20.6.1.25 Road traffic noise would also be expected to change as a result of background traffic growth, changes in traffic composition and speed, and committed highway or public transport schemes.

20.6.1.26 Existing fixed operational plant at the airport and at other developments within the study area would remain part of the baseline, together with new plant associated with committed developments. The future baseline would also include temporary noise and vibration from other committed construction projects, but would exclude all construction and operational noise and vibration arising from the Proposed Development itself.

20.7 Likely Significant Effects Requiring Assessment

20.7.1.1 The likely significant effects that will be included in the Noise and Vibration assessment are described in the following sections.

20.7.2 Construction

20.7.2.1 The likely significant effects that will be included in the Noise and Vibration assessment in the construction phase are given in **Table 20-6**.

20.7.2.2 The potential for significant cumulative effects will be considered.

20.7.3 Operation

20.7.3.1 The likely significant effects that will be included in the Noise and Vibration assessment during operation are given in **Table 20-6**.

20.7.3.2 The potential for significant cumulative effects will be considered.

20.7.4 Decommissioning

20.7.4.1 Decommissioning activities for the Proposed Development are set out within **Chapter 4: EIA approach to Scoping**. The general approach is that the Proposed Development is considered to be permanent. Therefore potential effects due to decommissioning are not included in the Noise and Vibration assessment.

Table 20-6: Likely significant Noise and Vibration effects

Activity	Effect	Receptor
Construction		
• Site/Construction; ○ Noise and vibration from construction activities such as tunnelling, demolition, earthworks, borrow pits, runway, bridges, road and rail realignments, utility works, erection of airport buildings; • Road; and • Rail (inc. vibration).	Temporary effects: • Daytime disturbance, annoyance; and • Sleep disturbance. Communication and learning could be adversely affected by noise.	Residential receptors: • Individual dwellings; • Care homes; • Shared community open areas; • Non-residential receptors: ○ Schools; ○ Hospitals; ○ Places of worship; ○ Commercial properties such as offices and hotels; and ○ Quiet Areas.
Operation		
• Airborne aircraft; • Aircraft ground noise; • Road; • Rail (inc. vibration); and • Fixed noise sources.	Permanent effects: • Daytime disturbance, annoyance; and • Sleep disturbance. Communication and learning could be adversely affected by noise.	Residential receptors: • Individual dwellings; • Care homes; • Shared community open areas; • Non-residential receptors: ○ Schools; ○ Hospitals; ○ Places of worship; ○ Commercial properties such as offices and hotels; and ○ Quiet Areas.
Decommissioning		
Not applicable	-	-

20.8 Effects Not Requiring Assessment

20.8.1.1 Potential effects to be scoped out of the Noise and Vibration assessment are given in **Table 20-7**.

Table 20-7: Potential effects to be scoped out of the Noise and Vibration assessment

Activity	Effect	Receptor	Justification for scoping out
Operational road traffic vibration	Permanent effects: • Daytime disturbance, annoyance; and • Sleep disturbance.	All	Guidance in DMRB LA 111[17] states *"Operational vibration is scoped out of the assessment methodology as a maintained road surface will be free of irregularities as part of project design and under general maintenance, so operational vibration will not have the potential to lead to significant adverse effects".*
Construction road traffic vibration	Temporary effects: • Daytime disturbance, annoyance; and • Sleep disturbance.	All	Although DMRB LA 111[17] does not specifically address vibration from construction traffic; it can be assumed that a maintained road surface would be applicable to construction traffic, which is unlikely to result in significant effects.
Hearing loss	Health - Hearing Loss.	All	Evidence for environmental noise effects from sources such as aircraft and road traffic suggests that there would be no effect of environmental noise exposure on hearing loss. Noise-induced hearing loss can be caused by a one-time exposure to an intense impulse sound (such as gunfire), or by steady state long-term exposure with sound pressure levels higher than 75 to 85 dBA[96] e.g. in industrial settings.

20.9 Proposed Approach to Assessment

Assessment approach

20.9.1.1 The generic project-wide approach to the assessment methodology is set out in **Chapter 4: Approach to EIA**. The following section sets out how this

[96] Basner, M. et al. 2014. Auditory and non-auditory effects of noise on health. Lancet, 383, 1325-32, 2014. Published April 2014. Available at: https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(13)61613-X/ (accessed 15/07/2026).

methodology will be applied, and adapted as appropriate, to address the specific needs of the Noise and Vibration assessment.

20.9.1.2 The general assessment methodology for Noise and Vibration is as follows:

- Gather baseline data, and determine construction and operational input data for each type of Noise and Vibration source for the Study Areas outlined in **Section 20.4**;
- Determine the Noise levels and Vibration levels (where relevant) with and without the Proposed Development for relevant scenarios;
- Assess the magnitude of impacts (absolute) on residential and non-residential receptors, for each scenario;
- Determine the change in noise levels, and associated impacts (relative) as a result of the Proposed Development;
- Describe the potential effects (beneficial and adverse) associated with the Proposed Development;
- Consider the likely significant effects due to the Proposed Development; and
- Describe mitigation measures, where appropriate, in relation to the Proposed Development and report upon any residual effects.

Baseline Data

20.9.1.3 A phased approach will be made to collect baseline data in the Study Areas. Initially, publicly available measurement and prediction data such as the results of aircraft noise monitoring undertaken by Heathrow Airport, and aircraft noise contours and noise mapping for road and rail traffic published by the UK Government. These sources are listed in **Table 20-4**.

20.9.2 Additional Baseline Information Required

20.9.2.1 Publicly available data will be supplemented by specific noise and vibration measurements to validate source data where necessary, and any noise and vibration surveys considered necessary.

Assessment Years

20.9.2.2 As the Proposed Development will be constructed and operated over a number of years, several assessment years and scenarios will need to be considered.

20.9.2.3 The ANPS[11] and draft HENPS[12] require any noise assessment to be undertaken for any period of change prior to the opening, for the time of opening, for the time the development is forecast to reach full capacity, and for when the development noise impact is forecast to be highest (if different from any of the previous assessments).

20.9.2.4 The assessment years will be based on:

- 2024 Baseline (for aircraft noise[12]);
- The Current Baseline at the point of DCO submission;

- Future years. ‘do something’ scenarios. Multiple future baseline years will be defined for both the construction and operational phases considering the following;
  - For any period of change in air traffic movements prior to opening;
  - As the construction activities will be expected to take place before, and continue after, operations on the new runway commence, assessment years to take account of combined construction and operation activities will be required;
  - Year of runway opening - that aircraft begin to use the new runway;
  - Year of predicted maximum environmental effects during the operational phase. This corresponds to when increased ATMs, road vehicles and other activity associated with the Proposed Development will cause the greatest noise impact;
  - Year of maximum ATMs. This is when the maximum forecasted number of ATMs for all three runways for the Airport; and
- Future baselines – do minimum scenarios. Future baseline years will be necessary to describe a 'do-minimum' scenario (as opposed to the ‘do-nothing’ scenario assessed for a typical DCO). This is because the noise effects associated with a two-runway Heathrow Airport will change over time to incorporate new technology such as the expansion of Performance Based Navigation (PBN), airspace redesigns, and introduction of quieter aircraft. The do minimum scenarios will consider the evolution of the Airport in the absence of a third runway. The same assessment years used for the ‘do something’ scenarios will be adopted.

Assessment methodology

20.9.2.5 The following sections describe the methodologies to predict levels of noise and vibration during the construction and operational phases of the Proposed Development. Reference standards and guidance, prediction methods, relevant criteria to derive values of LOAEL, SOAEL and UAEL for:

- Construction noise and vibration;
- Aircraft noise;
- Aircraft ground noise;
- Road traffic noise;
- Rail Noise;
- Rail Vibration; and
- Other noise sources (for example fixed sources).

Assessment methodology – Construction noise

Standards and guidance

20.9.2.6 The following standards and guidance will be used in the prediction and assessment of construction noise.

20.9.2.7 Construction activities within construction sites (direct effects):

- British Standards. BS 5228-1.2009+A1. 2014 Code of practice for noise and vibration control on construction and open sites. Part 1 – Noise, 2014 [71.]

20.9.2.8 Construction traffic on existing roads and railways (indirect effects):

- Highways England. Design Manual for Roads and Bridges, LA 111 Noise and vibration, Rev. 2, 2020[17];
- Department for Transport. Calculation of Road Traffic Noise (CRTN), 1988[15]; and
- Department for Transport. Calculation of Railway Noise (CRN),1995[16].

Input information

20.9.2.9 The following information will be used to predict construction noise:

- Construction site locations;
- Construction phasing information which sets out the temporal and spatial scope of the construction activities required to construct the Proposed Development;
- Likely/assumed construction methods including inventories of stationary plant/equipment as set out in BS 5228-1[71], locations, percentage on-times, and haul roads. These will be used to determine activity noise levels for different construction activities with reference to source sound level data for plant and equipment;
- Locations and specifications of site hoarding, screening and enclosures;
- Construction working hours;
- Existing roads and railways required for construction site access and deliveries;
- Road and rail construction traffic information throughout the construction programme; and
- Construction information would be used to develop a set of reasonably foreseeable worst-case input assumptions for the construction noise assessment.

Prediction methods

20.9.2.10 The methodology given in BS 5228-1[71] will be used to predict external noise levels during construction at noise sensitive receptors within the study area based on reasonably foreseeable worst-case assumptions derived from the construction information. At all noise sensitive receptors, the daytime, evening and night-time period noise levels (L_{Aeq},T) will be predicted at representative phases of the construction programme.

20.9.2.11 Noise levels from sources within the construction sites (direct impacts) will be assessed at residential noise sensitive receptors using the impact criteria described in Annex E of BS 5228-1[71].

20.9.2.12 In addition to site hoarding, screening and enclosures, the assessment would take due account of noise mitigation including existing and planned noise insulation, and temporary re-housing in line with the guidance given in E.4 of BS 5228-1[71].

20.9.2.13 Direct effects arising from construction site noise at noise sensitive non-residential receptors will initially be identified on a precautionary basis by comparing predicted construction noise levels with the screening criteria set out in **Table 20-13**. Where predicted levels (taking account of mitigation) exceed the screening criteria, then a receptor-specific assessment will be undertaken and reported in the DCO.

20.9.2.14 Indirect effects of temporary changes in traffic patterns caused by construction road and rail traffic will be assessed using the defined LOAELs and SOAELs, and magnitude of impact for construction noise given in the DMRB LA111[17].

Assessment methodology – Construction vibration

Standards and guidance

20.9.2.15 The following standards and guidance will be used in the prediction of construction vibration:

- British Standards. BS 5228-2.2009+A1. 2014 Code of practice for noise and vibration control on construction and open sites. Part 2 – Vibration, 2014[72];
- BS 6472-1.2008 Guide to evaluation of human exposure to vibration in buildings. Vibration sources other than blasting, 2008[73];
- BS 6472-2.2008 Guide to evaluation of human exposure to vibration in buildings. Blast-induced vibration, 2008[74];
- BS 7385-2.1993 Evaluation and measurement for vibration in buildings – Part 2. Guide to damage levels from ground-borne vibration,1993[75]; and
- ANC Measurement and Assessment of Groundborne Noise and Vibration (Red Book), 2024[81].

Input information

20.9.2.16 The following information will be used to predict construction vibration:

- Construction site locations;
- Construction phasing information which sets out the temporal and spatial scope of the construction activities required to construct the Proposed Development;
- Likely/assumed construction methods including inventories of stationary plant/equipment as set out in BS 5228-2, locations, percentage on-times, and haul roads. These will be used to determine activity noise levels for different construction activities with reference to source sound level data for plant and equipment;
- Construction working hours;
- Existing roads and railways required for construction site access and deliveries; and
- Road and rail construction traffic information throughout the construction programme.

Prediction methods

20.9.2.17 Vibration levels, in terms of Peak Particle Velocity (PPV), will be used to determine vibration impact at noise sensitive receptors using the guidance criteria for human response to vibration given in Table B.1 of BS 5228-2[72].

20.9.2.18 PPVs from sources within the construction sites at sensitive receptors will be predicted using the methodology given in Annex E of BS 5228-2[72], along with guidance given in Transport Research Laboratory (TRL) Report 53 ‘Ground

vibration caused by civil engineering works'[97] and TRL Report 429 'Groundborne vibration caused by mechanised construction works'[98].

20.9.2.19 Potential damage to buildings will be assessed using predicted external PPVs at vibration-sensitive receptors and compared to the thresholds for the onset of building damage given in BS 7385-2[75].

20.9.2.20 To assess potential effects in the form of annoyance and disturbance to the occupants of buildings, predicted PPV values will be used with impact assessment criteria presented in BS 5228-2[72].

20.9.2.21 Effects of temporary changes in traffic patterns caused by construction road and rail traffic will be assessed using the defined LOAELs and SOAELs, and magnitude of impact for construction vibration given in the DMRB LA111[17].

20.9.2.22 Potential impacts arising from construction site vibration at sensitive non-residential receptors will initially be identified on a precautionary basis by comparing predicted vibration levels with the screening criteria set out in **Table 20-14**. Where predicted levels exceed the screening criteria, then a receptor-specific assessment will be undertaken.

Assessment methodology – Aircraft Noise

Standards and guidance

20.9.2.23 The following standards and guidance will be used in the prediction of noise from airborne aircraft:

- European Civil Aviation Conference (ECAC) report on Standard Method of Computing Noise Contours Around Civil Airports, 2016 (3 Vols.)[99];
- Society of automotive Engineers (SAE) AIR1845A Procedure for the Calculation of Airplane Noise in the Vicinity of Airports, 2012[100];
- Civil Aviation Authority (CAA). CAP2091. CAA Policy on Minimum Standards for Noise Modelling, 2021[62];
- Air Navigation Guidance 2026[7]; and
- Civil Aviation Authority (CAA). CAP1616. Airspace Change Process, September 2026[101].

[97] Transport Research Laboratory 1986, Report 53 Ground vibration caused by civil engineering works. Published 1986. Available at: https://thenbs.com/publicationindex/documents/details?Pub=TRL&DocId=254104 (accessed 02/07/2026).
[98] Transport Research Laboratory 2000. Report 429, Groundborne vibration caused by mechanised construction works. Published 2000. Available at: https://thenbs.com/publicationindex/documents/details?Pub=TRL&DocId=250135 (accessed 02/07/2026).
[99] European Civil Aviation Conference (ECAC) 2016. Report on the Standard Method of Computing Noise Contours Around Civil Airports ECAC.CEAC Doc 29. Published December 2016. Available at: https://ecac-ceac.org/activities/environment/ecac-guidance-material-on-environment (accessed 02/07/2026).
[100] Society of Automotive Engineers (SAE) 2012. AIR1845A 2012 Procedure for the Calculation of Airplane Noise in the Vicinity of Airports. Published August 2012. Available at: (accessed 02/07/2026).
[101] Civil Aviation Authority (CAA). CAP1616. Airspace Change Process. Published September 2026. Available at: https://www.caa.co.uk/data-and-publications/publications/documents/content/cap1616/ (accessed on: 28/09/2026).

Input information

20.9.2.24 Airborne aircraft noise is expected to be predicted based on the following information:

- 24 hour flight schedules for each assessment year, including Summer schedules (Summer is defined as the 92 day period from 16 June to 15 September inclusive);
- Forecast number of annual ATMs for each assessment year;
- Aircraft fleet mix for each assessment year;
- Assumptions regarding the noise characteristics of future aircraft types that are forecast to operate in the assessment years but are not currently in service, including the use of appropriate surrogate aircraft and associated adjustments to represent their expected noise performance;
- Runway geometry including runway length, location, arrival threshold locations and positions of start of take-off roll;
- Assignment of aircraft movements to runways, routes and destinations;
- The split between easterly and westerly operations, including details of respite operations;
- Aircraft flight performance such as climb and descent profiles;
- Existing flight tracks to generate baseline scenarios; and
- Indicative airspace design(s) to be used for future scenarios.

Prediction methods

20.9.2.25 Proprietary airborne aircraft noise modelling software will be used to predict noise levels and contours for all assessment years and operational scenarios.

20.9.2.26 The contours will be produced using a recognised and validated noise model such as the UK Aircraft Noise Contour Model (ANCON) or the US Aviation Environmental Design Tool (AEDT).

20.9.2.27 CAP 2091 defines Categories of noise modelling with different levels of detail, with the more sophisticated the category, the more the basic noise model is adapted to reflect local factors and conditions. Minimum recommended and minimum mandated thresholds for each Category of noise modelling are given in CAP 2091 and are in terms of population exposed to Summer average 51 dB $L_{Aeq,16h}$ day and 45 dB $L_{Aeq,8h}$ night.

20.9.2.28 Considering the population exposure in 2024 (see **Table 20-5**) and likely in the future, Category A modelling will be used. Category A noise modelling is specified as:

- Noise data - ICAO dataset modified for local noise monitor data for all aircraft types;
- Flight profiles - Local track-keeping data;
- Centreline (mean track) - Local track-keeping data;
- Dispersion (variation around centreline) - Local track-keeping data; and
- Usage (allocation of traffic to routes) - Local track-keeping data.

20.9.2.29 The latest version of AEDT may be used to support design and assessment of the Proposed Development.

20.9.2.30 It is currently assumed that the latest version of ANCON will generally be used to make final predictions in support of approval processes. Any aircraft noise models developed in AEDT will be validated by CAA ERCD using the equivalent ANCON outputs and using existing Heathrow Airport aircraft noise monitoring data.

20.9.2.31 The software will be used to predict the 92-day average summer daytime dB $L_{Aeq,16h}$ (the 16hr daytime period is 07.00 to 23.00 local time) and night-time dB $L_{Aeq,8h}$ (the 8hr night-time is 23.00 to 07.00 local time), and annual dB L_{den} noise metrics for the various baseline and assessment years.

20.9.2.32 These primary metrics for assessing likely significant effects from aircraft noise will be supplemented with additional metrics. These include the maximum noise level from individual aircraft flight operations (L_{Amax}) and Number of Events Above metrics, such as N65(16h) during daytime periods and N60(8h) during nighttime periods. The N65 is the number of events that exceed 65 dB $L_{AS,max}$ and the N60 is the number of events that exceed 60 dB $L_{AS,max}$.

20.9.2.33 Output will generally take the form of the relevant noise values at grid centres (typically at approximately 100 m intervals), and noise contours. Noise levels will also be assigned to postcode points to enable area-based assessment of effects.

20.9.2.34 Demographic data for each of the forecast years will be used to count the population, households, schools, hospitals, places of worship (and other noise sensitive receptors) at each postcode.

20.9.2.35 Primary and additional metric results will be generated for:

- The 92-day summer overall average daytime 16h and night-time 8h;
- The 92-day summer average easterly and average westerly daytime 16h and night-time 8h;
- Daytime 16h and night-time 8hr for each mode of operation;
- Maximum noise level from individual aircraft flight operations ($L_{AS,max}$) will be derived for aircraft operations at night; and
- Objective awakenings for the night-time period (23.00 to 07.00) generated from the dB $L_{AS,max}$ data for the overall average night-time, the average easterly and westerly night-time and the night-time mode specific cases.

Low Frequency Noise

20.9.2.36 Low-frequency noise can occur during aircraft start of roll. It is most associated with noise emitted behind departing aircraft and may travel further than some other aircraft noise characteristics. In some cases, it can pass through buildings and cause windows or objects to rattle or be perceived by occupants as vibration.

20.9.2.37 The assessment will consider the potential for noise-induced vibration at sensitive receptors within 500 m of aircraft start of roll. This will be informed by relevant

research on low-frequency noise near airports, Heathrow-specific investigations and assessment of maximum low-frequency noise levels. Where necessary, building construction and insulation information will be used to confirm whether likely significant effects could occur.

Assessment methodology – Aircraft ground noise

Standards and guidance

20.9.2.38 There are no universally agreed standards or guidance documents to predict and assess aircraft ground noise. Ground noise will therefore be predicted using the calculation methodology set out in ISO 9613-2[70], with the resulting levels assessed against criteria that are commonly applied in the UK.

Input information

20.9.2.39 Aircraft ground noise is expected to be predicted based on the following information:

- Location and naming convention of taxiways;
- Average taxi speeds/engine on-times per metre length of taxiway;
- Movements by aircraft type on the taxiways;
- Location of aircraft holding and hold points and time in hold;
- Stand locations and names;
- Stand turnaround times; and
- Source noise levels for aircraft during ground operations.

Prediction methods

20.9.2.40 Aircraft ground noise levels will be modelled using the latest version of Datakustik CadnaA noise modelling software. This adopts the methodology given in ISO 9613-2[70] to predict noise levels at noise-sensitive receptors. These noise models will include the topology, buildings and their elevations, purpose-built screens and bunds, and the locations of acoustically absorbent and reflective ground types.

20.9.2.41 Source noise levels for aircraft ground operations will be determined from BAP in-house data used from other airports. Additional noise measurements will be made where access permits to check the validity of the ground noise model.

20.9.2.42 Potential effects of aircraft ground noise will be assessed by predicting the daytime dB $L_{Aeq,16h}$ and night time dB $L_{Aeq,8h}$ levels.

Assessment methodology – Road noise

Standards and guidance

20.9.2.43 The following standards and guidance will be used in the prediction of noise from road traffic.

- Highways England. Design Manual for Roads and Bridges, LA 111 Noise and vibration, Rev. 2, 2020[17]

- Department for Transport. Calculation of Road Traffic Noise (CRTN), 1988[15]
- TRL. Method for Converting the UK Road Traffic Noise Index $L_{A10,18h}$ to the EU Noise Indices for Road Traffic Noise Mapping, 2006[102]
- The Noise Insulation Regulations 1975[44].

Input information

20.9.2.44 The following information will be used to predict road traffic noise:

- Locations and design of new or altered roads, including topographical information; and
- Road traffic forecasts for all assessment years on new, altered and existing roads including the proportion of HGVs, including existing and forecast speeds.

Prediction methods

20.9.2.45 Road traffic will be modelled using the latest version of Datakustik CadnaA noise modelling software. This utilises the methodology outlined in CRTN to predict noise levels at noise-sensitive receptors. These noise models will include topology, buildings and their elevations, purpose-built screens and bunds, and locations of acoustically absorbent and reflective ground types.

20.9.2.46 These models will be used to predict the daytime $L_{A10,18h}$, which is the standard output of the CRTN Methodology, which will then be converted into daytime dB $L_{Aeq,16h}$ and night time dB $L_{Aeq,8h}$ noise using the TRL method[102].

20.9.2.47 Potential effects of road traffic noise will be assessed by predicting the daytime dB $L_{Aeq,16h}$ and night time dB $L_{Aeq,8h}$ levels in the form of noise contours and at sensitive receptors. Effects of road traffic will be assessed using the defined LOAELs and SOAELs, along with short-term and long-term magnitude of significance, for traffic noise given in the DMRB LA111[17].

Assessment methodology – Rail noise and vibration

Standards and guidance

20.9.2.48 The following standards and guidance will be used in the prediction of noise and vibration from rail traffic:

- Department for Transport. Calculation of Rail Noise (CRN) 1995[15];
- The Noise Insulation Regulations 1975[44];
- BS 6472-1.2008 Guide to evaluation of human exposure to vibration in buildings. 1-Vibration sources other than blasting[73]; and
- ISO 14837-1.2005 Mechanical vibration – Ground-borne noise and vibration arising from rail systems – Part 1. General Guidance[76].

[102] Transport Research Laboratory, 2006. Method For Converting The Uk Road Traffic Noise Index $L_{A10,18h}$ to the EU Noise Indices For Road Noise Mapping. Published January 2006. Available at: https://www.researchgate.net/publication/311964809_METHOD_FOR_CONVERTING_THE_UK_ROAD_TRAFFIC_NOISE_INDEX_LA1018h_TO_THE_EU_NOISE_INDICES_FOR_ROAD_NOISE_MAPPING (accessed 02/07/2026).

Input information

20.9.2.49 The following information will be used to predict rail traffic noise and vibration:

- Locations and design of new or altered rail lines, including topographical information; and
- Rail traffic forecasts for all assessment years on new, altered and existing rail lines, including the proportion of freight trains, including existing and forecast speeds.

Prediction methods - noise

20.9.2.50 Rail traffic noise will be modelled using the latest version of Datakustik CadnaA noise modelling software. This utilises the methodology given in CRN[15] to predict noise levels at noise sensitive receptors. These noise models will include topology, buildings and their elevations, purpose-built screens and bunds, and locations of acoustically absorbent and reflective ground types.

20.9.2.51 These models will be used to predict daytime dB $L_{Aeq,16h}$ and night time dB $L_{Aeq,8h}$ noise.

20.9.2.52 Potential effects of rail traffic noise will be assessed by predicting the daytime $L_{Aeq,16h}$ and night time $L_{Aeq,8h}$ levels in the form of noise contours and at sensitive receptors.

Prediction methods - vibration

20.9.2.53 The empirical calculation procedures would be based upon the verified calculation methods that were developed for HS2.

20.9.2.54 A train vibration model will be used to predict the VDV and maximum internal groundborne noise level ($L_{AS,max}$) at vibration sensitive properties within the study area.

20.9.2.55 For assessing the potential impacts of human annoyance and disturbance from vibration, the VDVs will be compared to thresholds for the onset of these impacts set out in BS 6472-1[73].

20.9.2.56 For assessing the potential impacts of human annoyance and disturbance from groundborne noise, predicted dB $L_{AS,max}$ levels will be compared to thresholds for groundborne noise developed for other, similar projects given in the ANC Red Book[81].

Assessment methodology – Other noise sources (fixed noise sources)

20.9.2.57 Fixed noise sources are sources of noise associated with the operation of terminal buildings (e.g. external mechanical services), and other airport operations (e.g. pumping equipment at an aviation fuel farm).

Standards and guidance

20.9.2.58 Potential impact of noise from fixed sources will be assessed in accordance with BS 4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound[77].

Assessment

20.9.2.59 Design information for assessing static noise sources and operations is unlikely to be available at the time of the DCO. This is not uncommon for large infrastructure projects at this stage of the planning process. It has been assumed that permanent fixed sources will be designed and maintained to avoid significant effects and minimise adverse noise effects as far as is practicable.

20.9.2.60 Such sources are readily capable of mitigation through appropriate plant selection, siting, enclosure, screening and/or attenuation as necessary.

20.9.2.61 To help achieve this, noise limits in accordance with BS 4142:2014+A1:2019[77] and Local Authority requirements would be determined to be included in tender documentation such that they will apply to the design of all the fixed plant installed and operated as part of the Proposed Development.

Sensitivity of receptors for noise and vibration

20.9.2.62 The criteria used to define the sensitivity classification for receptors to noise and vibration are given in **Table 20-8**.

Table 20-8: Sensitivity of receptors for noise and vibration

Sensitivity	Description
High	Receptors that are highly sensitive to noise or vibration such as theatres, auditoria, recording studios, concert halls and highly vibration sensitive structures or uses such as certain laboratories, medical facilities or industrial processes.
Medium	Noise and vibration sensitive receptors such as permanent residential buildings, offices, libraries, hospitals, buildings in health/community use, buildings in educational use, hotels, and hostels.
Low	Receptors of very low sensitivity to noise and vibration such as industrial or commercial buildings and transient or mobile receptors.

Noise and Vibration assessment criteria

20.9.2.63 Noise and Vibration assessment criteria are developed and used to derive values of LOAEL, SOAEL and UAEL as given in the Noise Policy Statement for England (NPSE) 2010[3] and Planning Practice Guidance – Noise (PPG-N)[6161]. These values are based on technical guidance along with the Aviation Policy Framework (APF)[4], Airports National Policy Statement (ANPS)[11], Overarching Aviation Noise

Policy Statement (OANPS)[10], and the Draft Heathrow Expansion National Policy Statement (HENPS)[12], and the National Networks National Policy Statement (NNNPS)[14].

20.9.2.64 PPG-N[61], in support of the NPPF[18], includes a table that summarises the noise exposure hierarchy based on the likely average response of those affected. This is reproduced in **Table 20-9**.

Table 20-9: Noise exposure hierarchy based on the likely average response

Response	Examples of Outcomes	Increasing Effect Level	Action
Not present	No Effect	No Observed Effect	No specific measures required
	No Observed Adverse Effect Level		
Present and not intrusive	Noise can be heard, but does not cause any change in behaviour, attitude or other physiological response. Can slightly affect the acoustic character of the area but not such that there is a change in the quality of life.	No Observed Adverse Effect	No specific measures required
	Lowest Observed Adverse Effect Level		
Present and Intrusive	Noise can be heard and causes small changes in behaviour, attitude or other physiological response, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a small actual or perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
	Significant Observed Adverse Effect Level		

Response	Examples of Outcomes	Increasing Effect Level	Action
Present and disruptive	The noise causes a material change in behaviour, attitude or other physiological response, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Present and very disruptive	Extensive and regular changes in behaviour, attitude or other physiological response and/or an inability to mitigate effect of noise leading to psychological stress, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory	Unacceptable Adverse Effect	Prevent

Noise exposure criteria – Residential receptors

20.9.2.65 Key noise exposure levels for residential receptors for noise from different sources for the construction and operational phases are given in **Table 20-10**.

Table 20-10: Noise exposure levels – residential receptors

Source	Period	LOAEL, SOAEL, and UAEL levels. Free field[h], outdoors.
Construction		
Construction activities within construction sites, construction traffic on existing roads and railways[a]	Daytime 07:00 – 23:00	LOAEL 65 dB $L_{Aeq,12h}$ SOAEL 75 dB $L_{Aeq,12h}$ UAEL 85 dB $L_{Aeq,12h}$
	Evening	LOAEL 55 dB $L_{Aeq,4h}$

Source	Period	LOAEL, SOAEL, and UAEL levels. Free field[h], outdoors.
	19:00-23:00	SOAEL 65 dB $L_{Aeq,4h}$ UAEL 75 dB $L_{Aeq,4h}$
	Night-time 23:00-07:00	LOAEL 45 dB $L_{Aeq,8h}$ SOAEL 55 dB $L_{Aeq,8h}$ UAEL 65 dB $L_{Aeq,8h}$
Operation		
Airborne aircraft noise	Daytime 07:00-23:00	LOAEL 51 dB $L_{Aeq,16h}$ [b] SOAEL 63 dB $L_{Aeq,16h}$[b] UAEL 71 dB $L_{Aeq,16h}$[c]
	Night time 23:00-07:00	LOAEL 45 dB $L_{Aeq,8h}$[b] SOAEL 55 dB $L_{Aeq,8h}$[b] UAEL 66 dB $L_{Aeq,8h}$[c]
	Night time 23:00-07:00	dB L_{Amax}/number of events, and a risk assessment of objective sleep disturbance.
Aircraft ground noise	Daytime 07:00-23:00	LOAEL 51 dB $L_{Aeq,16h}$[b] SOAEL 63 dB $L_{Aeq,16h}$[b] UAEL 71 dB $L_{Aeq,16h}$[c]
	Night time 23:00-07:00	LOAEL 45 dB $L_{Aeq,8h}$[b] SOAEL 55 dB $L_{Aeq,8h}$[b] UAEL 66 dB $L_{Aeq,8h}$[c]
Road	Daytime 07:00-23:00	LOAEL 50 dB $L_{Aeq,16h}$[d] SOAEL 63 dB $L_{Aeq,16h}$[d] UAEL 71 dB $L_{Aeq,16h}$[c]
	Night time 23:00-07:00	LOAEL 40 dB $L_{Aeq,8h}$[d] SOAEL 55 dB $L_{Aeq,8h}$[d] UAEL 66dB $L_{Aeq,8h}$[c]
Rail	Daytime	LOAEL 50 dB $L_{Aeq,16h}$[e]

Source	Period	LOAEL, SOAEL, and UAEL levels. Free field[h], outdoors.
	07:00-23:00	SOAEL 65 dB $L_{Aeq,16h}$[e] UAEL 71 dB $L_{Aeq,16h}$[c]
	Night time 23:00-07:00	LOAEL 40 dB $L_{Aeq,8h}$[f] SOAEL 55 dB $L_{Aeq,8h}$[f] UAEL 66 dB $L_{Aeq,8h}$[c]
		LOAEL 60 dB L_{Amax} (any event) SOAEL 80 dB L_{Amax} (>20 pass-bys per night), or 85 dB L_{Amax} (< 20 pass-bys per night)[g]
Other noise sources (Fixed)	Day and night	Avoid likely significant effects by setting noise constraints set in line with BS 4142:2014[77].

a. Construction noise LOAEL and SOAEL correspond to Category A and Category C of the 'ABC method' given in BS 5228-1.2009+A1.2014[128]. UAEL corresponds to trigger values for temporary rehousing in BS 5228-1.2009+A1.2014[128].

b. Airborne and ground aircraft noise daytime and nighttime LOAELs and SOAELs are as advised in the Consultation Response on UK Airspace Policy 2017[11], Air Navigation Guidance (ANG) 2017[13], and the HENPS 2026[25].

c. Daytime UAEL is based on ProPG:

"Once internal LAeq levels exceed the target levels by more than 10 dB, they are highly likely to be regarded as "unacceptable" by most people, particularly if such levels occur more than occasionally. Every effort should be made to avoid relevant rooms experiencing "unacceptable" noise levels at all and where such levels are likely to occur frequently, the development should be prevented in its proposed form."

ProPG incorporates British Standard 8233:2014[78] to set indoor 'target levels' and sets target level of 35 dB $L_{Aeq,16h}$ for resting in the daytime. Thus, an internal level of 45 dB $L_{Aeq,16h}$ would mark the onset of unacceptable levels in the daytime. Assuming a precautionary outdoor to indoor level difference of 26 dB, this leads to a daytime external UAEL value of 71 dB $L_{Aeq,16h}$. A 26 dB level difference represents property with a masonry construction and either single glazed windows (closed) or thermal double-glazed windows (closed) with and open trickle vent. This represents a precautionary approach to identifying an external exposure above which, without mitigation, people will have exhausted their ability to protect themselves from unacceptable levels indoors (i.e. by closing their existing windows).

The night-time UAEL value for sources other than construction noise is set at 66 dB $L_{Aeq,8h}$. This is based on BS8233:2014[78] identifying a night-time target level of 30 dB $L_{Aeq,8h}$ for bedrooms and ProPG statement that levels more 10 dB above this target level would be unacceptable. Applying the same precautionary outdoor to indoor 26 dB level difference described earlier, yields a night-time UAEL of 66 dB $L_{Aeq,8h}$ (i.e. 30 dB target level, + 10 dB to define an indoor threshold for unacceptable levels, +26 dB indoor to outdoor level difference).

d. Daytime and night time road noise LOAELs and SOAELs are taken from DMRB LA 111[30]. These are given in terms of $L_{A10,18h}$ for daytime so these have been corrected to $L_{Aeq,16h}$ by subtracting 2 dB[157], and corrected from façade to free field level by subtracting 3 dB. Night time LOAEL and SOAEL are given in terms of L_{night} from 23.00 to 07.00 hours so is the same as $L_{Aeq,8h}$.

e. Daytime rail level LOAEL and SOAEL levels are taken from High Speed 2[158].

f. The night time rail noise LOAEL and SOAEL are based on recommendations given in WHO Night Noise Guidelines for Europe[116].

g. Night time maximum criteria are taken from High Speed 2[158].

Source	Period	LOAEL, SOAEL, and UAEL levels. Free field[h], outdoors.

h. For construction noise, all noise levels are predicted or measured at a point 1 m in front of the most exposed of any windows and doors in any façade of any eligible dwelling (BS 5228 Annex E.4).

20.9.2.66 In addition to the absolute noise level, for permanent noise effects (i.e. not construction noise) the relative change in noise level due to the Proposed Development will be used to assess the change in noise exposure. The change will be rated according to the classifications given in **Table 20-11**.

Table 20-11. Noise impact ratings - General

Noise change descriptor	Change in noise level (dB $L_{Aeq,16h}$ or $L_{Aeq,8h}$)[a]
No change	0
Negligible	0.1 to 0.9
Slight	1.0 to 2.9
Minor	3.0 to 4.9
Moderate	5.0 to 9.9
Major	≥ 10.0

a. The change in change in noise exposure can be positive or negative.

20.9.2.67 DMRB LA 111[17] specifically provides classifications for the magnitude of the road traffic noise change over the short and long term. These are summarised in **Table 20-12**.

Table 20-12. Noise impact ratings – Road noise

Magnitude	Noise change (dB $L_{A10,18h}$ or L_{night})[a]	
	Short term	Long term
Negligible	< 1.0	< 3.0
Minor	1.0 to 2.9	3.0 to 4.9
Moderate	3.0 to 4.9	5.0 to 9.9
Major	≥ 5.0	≥ 10.0

a. The change in change in noise exposure can be positive or negative.

b. DMRB LA 111[17] defines long and short term as:

- Long-term – the noise change based on the +15 year assessment. For example, Do-minimum opening year scenario (DMOY) against Do-minimum future year scenario (DMFY) and DMOY against Do-something futurey ear scenario (DSFY));
- Short-term - the noise change based on parallel assessment year (for example DMOY against Do-something opening year scenario (DSOY)); and
- DMRB LA 111 also defines Non-project noise change as noise change based on the DMOY against DMFY scenario, with no project implementation.

20.9.2.68 For noise sensitive receptors where the magnitude of change in the short term is minor, moderate or major at noise sensitive buildings additional contextual factors as described within LA111 will be considered.

Noise exposure criteria – Non-residential receptors

20.9.2.69 The assessment of likely significant effects due to noise at non-residential receptors differs from the approach for residential receptors. A screening approach to identify where there is the potential for significant effects to occur at a particular sensitive non-residential receptor will be used. This is due to the differing acoustics design guideline values for different types of non-residential receptors, and the potentially wide variance in the design, use, condition, and layout of a non-residential receptor within a category type.

20.9.2.70 Screening criteria for noise at non-residential receptors are given in **Table 20-13.**

Table 20-13. Screening criteria to identify non-residential receptors for specific assessment

Type	Noise level (dB) Free field, outdoors.	
	Day $L_{Aeq,16h}$	Night $L_{Aeq,8h}$
Large and small auditoria; concert halls, sound recording and broadcast studios, theatres[a]	60 dB $L_{AF,max}$ or 50 dB $L_{Aeq,16h}$	60 dB $L_{AF,max}$ or 50 dB $L_{Aeq,8h}$
Places of meeting for religious worship, Courts, Cinemas, Lecture theatres, Museums, Small auditoria or halls[b]	50 dB $L_{Aeq,16h}$	N/A
Hospitals and hotels[c]	50 dB $L_{Aeq,16h}$	45 dB $L_{Aeq,8h}$

Type	Noise level (dB) Free field, outdoors.	
	Day $L_{Aeq,16h}$	Night $L_{Aeq,8h}$
Schools, Colleges, Libraries[b]	50 dB $L_{Aeq,16h}$	N/A
Offices[e]	55 dB $L_{Aeq,16h}$	N/A
External amenity spaces[f]	55 dB $L_{Aeq,16h}$	N/A

a. Based on an internal level of 25 $L_{Aeq,T}$ and 35 dB L_{Amax} based on guidance levels given in BS 8233:2014[78].

b. Based on an internal level of 35 dB $L_{Aeq,T}$ based on guidance levels given in Building Bulletin 93 Performance Standards[82] and BS 8233:2014[78]. The equivalent external level assumes a 10 to 15 dB reduction for a partially open window.

c. Based on an internal level of 40 dB $L_{Aeq,1h}$ daytime, 35 dB $L_{Aeq,1h}$ night time, and 45 dB $L_{AF,max,}$ night time based on guidance levels given in HTM 08-01:2013[84]. The equivalent external level assumes a 10 to 15 dB reduction for a partially open window.

d. Based on an internal level of 35 dB $L_{Aeq,16h}$ and 30 dB $L_{Aeq,T}$ based on guidance levels given in BS 8233:2014 for residential spaces[78]. The equivalent external level assumes a 10 to 15 dB reduction for a partially open window.

e. Based on an internal level of 35 dB $L_{Aeq,T}$ for a cellular office based on guidance levels given British Council for Offices (BCO) Guidance[87]. The equivalent external level assumes a 10 to 15 dB reduction for a partially open window.

f. Based upon guidance from WHO Guidelines for Community Noise 1999[58] and BS 8233:2014[78].

20.9.2.71 Where the screening criteria are met, the noise exposure due to the Proposed Development will be calculated using the $L_{Aeq,16h}$ and $L_{Aeq,8h}$ metrics considering type and sensitivity of the receptor.

20.9.2.72 The magnitude of the change of the calculated noise exposure will be evaluated using the classifications given in **Table 20-11**.

Noise exposure criteria – Quiet areas

20.9.2.73 'Quiet areas' are defined as either "*Quiet Areas*" as identified under the Environmental Noise Regulations (England) Regulations 2006[38], or are resources which are prized for providing tranquillity as noted in the National Planning Policy Framework (NPPF)[18], and are therefore designated as such under the relevant local plan or are designated under local plans or neighbourhood development plans as local green spaces.

20.9.2.74 Areas located within or near to the 51 dB $L_{Aeq,16h}$ aircraft noise contour (LOAEL) will be considered on a receptor-specific basis based on the criteria defined in the relevant Local Plan or Neighbourhood Development Plan. There are currently no Quiet Areas identified through implementation of the Environmental Noise Regulations 2006[38].

20.9.2.75 As part of the stakeholder engagement process, the relevant local planning authorities will be consulted to identify any locally designated or recognised areas where tranquillity or the acoustic environment is afforded specific protection, such as quiet open spaces, or other locally defined noise-sensitive areas. Any such areas identified within the relevant study area will be considered in defining sensitive receptors, establishing the assessment methodology and evaluating the potential noise effects of the Proposed Development.

20.9.2.76 Effects on Quiet Areas (or other resources that are valued for providing tranquillity to a local community) will be assessed on a receptor by receptor basis having regard to the following factors:

- Predicted noise exposure using $L_{Aeq,16h}$ and/or $L_{Aeq,8h}$ metrics to reflect the use and sensitivity of the receptor with respect to aircraft noise (airborne and ground), road traffic, and rail traffic;
- Predicted change in noise exposure for the receptor in accordance with **Table 20-11** and **Table 20-12**; and
- For construction noise, impact will be assessed considering the duration over which temporary construction impacts may occur.

Vibration exposure criteria

20.9.2.77 Residential and vibration sensitive receptor vibration and ground-borne noise LOAEL and SOAEL exposure levels for the construction and operational phases for different sources are given in **Table 20-14**.

Table 20-14: Vibration and ground-borne noise effect levels for residential buildings during construction and operation

Source	Source	Significance	Period	Level
Vibration	Vibration – Annoyance[a]	LOAEL	Daytime (07:00-23:00)	0.3 mm/s PPV
			Night time (23:00 – 07:00)	0.3 mm/s PPV
		SOAEL	Daytime (07:00-23:00)	1.0 mm/s PPV
			Night time (23:00 – 07:00)	1.0 mm/s PPV
	Vibration – Damage[c]	Damage to potentially vulnerable buildings	24-hour	3 mm/s PPV

Source	Source	Significance	Period	Level
		Damage to structurally sound buildings	24-hour	6 mm/s PPV
Noise	Ground-borne noise[b]	LOAEL	24-hour	35 dB $L_{AS,max}$
		SOAEL	24-hour	45 dB $L_{AS,max}$

a. From DMRB LA 111[17].

b. From High Speed 2[158].

c. From BS 7385-2[75].

20.9.2.78 In line with NPSE[3], significant adverse effects on health and/or quality of life will be identified at every residential receptor when the relevant SOAEL value is exceeded as a result of the Proposed Development.

20.9.2.79 For vibration-sensitive research, healthcare and manufacturing uses, including semiconductor manufacture, hospitals containing vibration-sensitive equipment or procedures, and universities undertaking vibration-sensitive research, the assessment will be based on the available information for the relevant equipment, process or activity. Where available, project-specific vibration criteria provided by the building owner, operator, equipment manufacturer or supplier will be applied.

Significance of Effects

20.9.2.80 The preceding sections set out the proposed methodology for assessing noise effects against relevant noise policy. Noise policy includes reference to significant adverse effects, including in relation to the Significant Observed Adverse Effect Level (SOAEL) and other associated policy tests. Where practicable and appropriate, the assessment of significance for EIA purposes will adopt the same absolute noise thresholds used to identify significant effects in noise policy terms, thereby maintaining consistency between the two assessments. However, the policy and EIA tests are not identical. The noise policy assessment is principally concerned with effects on individual receptors and is generally based on absolute levels of noise, whereas the EIA assessment will additionally consider the magnitude of change in the noise environment relative to baseline conditions, alongside the resulting absolute noise levels. The EIA assessment will therefore consider both the absolute level of exposure and the change arising from the Proposed Development in determining the significance of noise effects.

20.9.2.81 The following terminology is used to define noise and vibration effects:

- Adverse - detrimental or negative effects to an environmental resource or receptor

- Negligible - imperceptible effects to an environmental resource or receptor
- Beneficial - advantageous or positive effects to an environmental resource or receptor.

20.9.2.82 Significance of effects depending on impact are shown in **Table 20-15**.

Table 20-15: Significance criteria

Level of effect		Criteria
Significant	Substantial	Only adverse effects are assigned this level of significance as they represent key factors in the decision-making process. These effects are generally, but not exclusively, associated with sites and features of national or regional importance. A change at a county scale site or feature may also enter this category.
	Major	These effects are likely to be important considerations at a district scale but, if adverse, are potential concerns to the project and may become key factors in the decision-making process.
	Moderate	These effects, if adverse, while important at a local scale, are not likely to be key decision-making issues. Nevertheless, the cumulative effects of such issues may lead to an increase in the overall effects on a particular area or on a particular resource.
Not significant	Slight or Minor	These effects may be raised as local issues but are unlikely to be of importance in the decision-making process. Nevertheless, they are of relevance in enhancing the subsequent design of the project and consideration of mitigation or compensation measures.
	Negligible or No Effect	Either no effect or effect which is beneath the level of perception, with normal bounds of variation or within the margin of forecasting error. Such effects should not be considered by the decision-maker.

20.9.3 Cumulative Effects

20.9.3.1 The detailed methodology for the Cumulative Effects Assessment (CEA) is provided in **Chapter 24: Cumulative and In-combination Effects**. This includes a description of the staged approach to the assessment establishing Parameter Plans and Order Limits to identify a list of committed development for the CEA.

20.9.3.2 This list of developments will be reviewed with noise-sensitive and vibration-sensitive developments identified. These will then be assessed separately in the same way as existing noise-sensitive and vibration-sensitive receptors.

20.9.4 In-Combination Effects

20.9.4.1 Potential in-combination effects may arise where a receptor is affected concurrently by noise and vibration and by effects assessed within other technical disciplines, such as changes in air quality, traffic and transport, visual amenity, community severance or ecological disturbance. These effects may act together to influence the overall experience of a receptor, even where each individual effect is assessed separately against discipline-specific criteria.

20.9.4.2 Noise and vibration effects will be predicted and evaluated using the established methodologies and significance criteria described in this Chapter. There are no generally accepted methods or criteria for quantitatively combining noise and vibration effects with those from other environmental disciplines. The noise and vibration assessment will therefore identify the receptors, geographical areas, assessment periods and development activities at which material effects could occur. This information will be provided to the wider EIA in-combination effects assessment, where it will be considered alongside the findings of the other technical assessments to determine whether concurrent effects could result in a materially different overall effect on a receptor.

20.9.4.3 Where relevant, the assessment will also identify potential downstream pathways associated with noise and vibration, such as changes in traffic movements or mitigation measures that could give rise to effects considered by another technical discipline. The scope and significance of any such in-combination or downstream effects will be considered through the interdisciplinary EIA process rather than by applying a separate combined noise and vibration significance criterion.

20.9.5 Limitations and Assumptions

Construction

20.9.5.1 Construction noise and vibration predictions will be based on the anticipated programme and construction methods provided by the project team. Where necessary, assumptions based on previous experience will be made following discussion with the project team to determine worst cases with respect to noise and vibration.

Aircraft noise

20.9.5.2 It is assumed that an airspace design suitable for the Proposed Development aircraft noise assessment will be available. The airspace design will need to include flightpaths and respite scenarios, with and without the Proposed Development. This airspace design will need to be broadly comparable to the work carried out to inform the draft HENPS[12].

20.9.5.3 It is assumed that information will be available regarding the aircraft fleet mix in future operational scenarios with and without the Proposed Development. This will include ATM mix and schedules, and information on current and future aircraft types, including flight profiles, performance, and noise levels.

20.10 Proposed Approach to Mitigation

20.10.1.1 Likely mitigation measures for Noise and Vibration are described in the following section in accordance with The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017[57]:

"a description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;".

20.10.1.2 Details of the mitigation hierarchy, a systematic approach used to minimise adverse effects of a project on the environment and people and to guide decision-making and prioritise activities, are given in **Chapter 4: Approach to EIA**. This hierarchy consists of:

- Primary (or embedded) mitigation which refers to any modifications made to the location or design of the development during the pre-application phase that are an inherent part of the project, and do not require additional action to be taken;
- Secondary mitigation which includes actions that will require further activity in order to achieve the anticipated outcome. These may be imposed as part of the planning consent; and
- Tertiary mitigation which includes actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental effects.

20.10.1.3 The assessment will initially include any primary and tertiary mitigation measures. For any Likely Significant Effect (LSE), a further assessment will be undertaken with secondary mitigation applied to give the residual effect assessment.

Construction

20.10.1.4 Based on input from the Noise and Vibration Assessment, a Code of Construction Practice (CoCP) will be developed for the Proposed Development. This will set out control measures and standards of work to be applied by The Applicant and their contractors during construction. It will:

- Provide effective planning, management and control during construction to avoid and minimise adverse potential effects upon people, businesses and the natural and historic environment; and
- Provide the mechanisms to engage with local authorities and their representatives throughout the construction period.

20.10.1.5 It will include steps to be taken to minimise construction noise and vibration. These include:

- A requirement to use BPM to minimise noise and vibration at neighbouring residential properties and other sensitive receptors arising from construction sites;
- A requirement for contractors to seek and obtain consents from the relevant local authority under Section 61 of the Control of Pollution Act 1974 for the proposed construction works, excluding non-intrusive surveys; and
- A policy to provide noise insulation and, if required, temporary re-housing in line with the guidance presented in Annex E of BS 5228-1[71]. These will be used as a method of last resort to avoid significant negative effects and minimise adverse effects and prevent unacceptable effects of construction noise and vibration.

Operation

20.10.1.6 Heathrow Airport already implements a wide range of measures intended to manage, mitigate and, where possible, minimise the adverse effects of aircraft noise, as set out in its Noise Action Plan. These include measures addressing aircraft technology, operational procedures, airspace and runway use, land-use planning, noise insulation, community engagement, monitoring and reporting. These existing measures will continue to be implemented and developed, as appropriate, alongside the additional mitigation, management and monitoring arrangements required for the operation of the Proposed Development.

20.10.1.7 Mitigation measures will be developed in accordance with Regulation (EU) No 598/2014[37], as retained in UK law, and the ICAO Guidance on the Balanced Approach to Aircraft Noise Management[1]. This requires the identification of an appropriate combination of measures at airport level, comprising the reduction of noise at source through the use of quieter aircraft, land-use planning and management, operational noise-abatement procedures, and noise-related operating restrictions.

20.10.1.8 The selection of mitigation measures will take account of their effectiveness, practicability and cost-effectiveness. Noise-related operating restrictions will be considered only where a noise problem has been identified through appropriate assessment and consultation, and where such restrictions are demonstrated to be an effective and proportionate means of addressing that problem after consideration of the other elements of the Balanced Approach.

20.10.1.9 Noise-related operating restrictions will only be introduced where appropriate studies and consultation have established that a noise problem exists and demonstrated that the proposed restriction would provide a proportionate and cost-effective means of addressing it.

20.10.1.10 The package and detailed design of noise mitigation measures will be developed through engagement with local communities, local authorities and other relevant stakeholders, so that the measures taken forward are appropriately targeted,

practicable and effective. The mitigation strategy will seek to avoid significant adverse noise effects and to reduce and mitigate other adverse noise effects arising from both the Proposed Development and the operation of Heathrow Airport. It will include the specific measures required by paragraphs 5.45 to 5.47 of the draft HENPS[13] and will explain how the proposed measures respond to stakeholder feedback and will be secured and delivered.

20.10.1.11 The design and operation of the Proposed Development will be developed in accordance with the applicable draft HENPS[13] requirements, including the requirement to limit, and where reasonably possible reduce, overall aircraft noise compared with 2024. Compliance will be demonstrated by comparing the areas exposed within the 51 dB $L_{Aeq,16h}$ and 45 dB $L_{Aeq,8h}$. night time contours or the relevant assessment years against the corresponding 2024 contour areas.

20.10.1.12 The draft HENPS places particular emphasis on the noise envelope and associated performance targets and review arrangements, together with the securing, monitoring and enforcement of noise mitigation commitments. The Proposed Development will include a noise envelope developed in accordance with the draft HENPS[13] requirements and relevant Civil Aviation Authority guidance. The envelope will be informed by engagement with local communities and other relevant stakeholders, reflect local priorities, and establish clear noise limits, performance targets and indicators against which the operation of the expanded airport can be monitored and managed. It will include appropriate review arrangements to ensure that the framework remains relevant over time and will provide for the benefits of future improvements in aircraft technology and operational procedures to be shared between airport growth and affected communities.

20.10.1.13 The compensation and noise mitigation package for the Proposed Development will be developed in accordance with the applicable statutory requirements and the provisions of the draft HENPS[13]. This will include property acquisition and compensation arrangements for eligible owner-occupied homes, residential acoustic insulation within the specified aircraft noise contours, financial contributions towards insulation within the wider eligibility area, and noise insulation and ventilation measures for eligible schools and community buildings. The detailed scope, eligibility criteria and delivery arrangements will be defined through the application process and will be equivalent to, or better than, the policy requirements.

20.10.1.14 The mitigation scheme will include a runway alternation scheme developed in accordance with the applicable draft HENPS[13] requirements. The scheme will provide communities affected by aircraft noise with adequate and predictable periods of respite following expansion, recognising that the duration of respite periods may be reduced compared with the existing arrangements. The timing, duration and scheduling of runway alternation will be developed through engagement with local communities and relevant stakeholders, with regard to applicable Civil Aviation Authority guidance, and predictability will be provided to the extent reasonably within the airport operator's control.

20.11 Summary

20.11.1.1 A short summary of scoped in and out elements within Noise and Vibration are given in **Table 20-16**.

Table 20-16. Elements scoped in/out of Noise and Vibration assessment

Discipline	Scoped In Elements	Scoped Out Elements
Noise and Vibration	• Construction noise and vibration: ○ Site activities; ○ Road traffic; and ○ Rail traffic. • Operation noise and vibration: ○ Airborne aircraft; ○ Aircraft ground noise; ○ Road traffic; ○ Rail traffic; and ○ Airport fixed noise sources.	• Construction and operational road traffic vibration; and • Hearing Loss.

Environmental Impact Assessment Scoping Report

Chapter 21

Traffic and Transport

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21 Traffic and Transport

21.1 Introduction

21.1.1.1 This Chapter of the Environmental Impact Assessment (EIA) Scoping Report has been prepared by Stantec and sets out the likely significant effects on traffic and transport produced by the Proposed Development which will be reported in the Environmental Statement (ES).

21.1.1.2 This Chapter considers the potential impacts associated with the construction and operational phases of the Proposed Development.

21.1.1.3 The Proposed Development is considered permanent and therefore no assessment of decommissioning with regards to traffic and transport is proposed.

21.1.1.4 This chapter considers traffic and transport to comprise all modes of surface transport using the public highway and public transport networks. This includes:

- Private vehicle movements (including freight);
- Construction movements;
- Private hire and taxis;
- Public buses;
- Coaches;
- Rail;
- Walking and cycling;
    - Adjacent to the public highway only,
    - On non-motorised user infrastructure subject to physical change as a result of the Proposed Development,
- Waterway users.

21.1.1.5 Walking and cycling occurring not adjacent to the public highway, for example on a Public Right of Way (PRoW), is considered as part of **Chapter 12: Recreation,** with the exception of where non-motorised user infrastructure is subject to physical change.

21.1.1.6 The assessment is concerned with the effects on people and communities and effects on users of transport infrastructure, in addition to the environmental consequences of transport changes and the transport-related changes experienced by receptors.

21.1.1.7 The following Chapters should be read in conjunction with Traffic and Transport:

- **Chapter 5: Air Quality**;
- **Chapter 8: Greenhouse Gases**;
- **Chapter 9: Climate Change**;
- **Chapter 11: Economics and Employment**: and

- **Chapter 20: Noise and Vibration.**

21.1.1.8 This Chapter provides an overview of relevant policy and guidance, baseline conditions and methodology. Full details of relevant national, regional and local guidance, baseline conditions and methodology, including data sources will be provided in the ES.

Wider Assessment of Traffic and Transport

21.1.1.9 In addition to this traffic and transport EIA Scoping Report, the transport considerations for the Proposed Development will be addressed through a Transport Assessment (TA) and Surface Access Strategy (SAS) and informed by transport modelling. The TA and SAS will be prepared in parallel to the ES.

21.1.1.10 The SAS is relevant to the mitigation, as set out in **Section 21.10.** The development of the SAS will be informed by stakeholder engagement and progressed separately to the EIA.

21.1.1.11 The TA and EIA will draw upon a shared technical base, including baseline evidence and modelling data. However, the TA and EIA serve separate objectives and will each be informed by relevant policy and stakeholder engagement. The TA will set out the transport strategy and assess the traffic impact of the Proposed Development on the highway network in the peak periods, whereas the EIA will set out the impact of traffic and transport on people and the environment. Relevant outputs from the TA will inform the assessment of likely significant environmental effects within the EIA, as appropriate. The scope of the TA is not covered within this Scoping report.

Traffic and Transport in the EIA

21.1.1.12 The traffic and transport chapter in the EIA serves to assess the transport effects of the Proposed Development in relation to the receptors exposed to them.

21.1.1.13 The Institute of Sustainability & Environmental Professionals (ISEP) published guidance on the 'Environmental Assessment of Traffic and Movement' [1]in July 2023. The EIA traffic and transport approach is informed by this guidance.

21.1.1.14 The potential effects are considered as below. Further information on each of the effects is provided in **Section 1.9**.

- Severance of communities;
- Road vehicle driver and passenger delay;
- Non-motorised user delay;
- Non-motorised amenity;
- Fear and intimidation on and by road users;
- Road user and pedestrian safety; and

[1] The Institute of Sustainability & Environmental Professionals (ISEP) 2023. Environmental Assessment of Traffic and Movement. Published July 2023. Available at: https://www.isepglobal.org/media/5mrmquib/iema-report-environmental-assessment-of-traffic-and-movement-rev07-july-2023.pdf (accessed on: 24/07/2026).

- Hazardous/large loads.

21.2 Policy, Legislation and Guidance

21.2.1.1 This Section identifies the relevant topic specific policies that have informed the scope and, where relevant, the traffic and transport study area for assessment. Further information on the policies relevant to the EIA and their status is set out in **Section 1.9**, which should be read in conjunction with this chapter. There is no other legislation relevant for consideration under this assessment over and above the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.

Table 21-1: Policy Relevant to the Traffic and Transport Assessment

Relevant Policy	Relevance to Assessment
Policy – National	
National Policy Statement for National Networks[2] (NNNPS) (2024)	The NNNPS sets out the need for and the Government's policies to deliver development of NSIPs on the national road and rail networks in England. It does not cover ports or airports. 3.42 sets out that "The Strategic Road Network and the delivery of sustainable development Circular 01/2022 establishes how additional spatial considerations in transport decisions can help tackle congestion and support better journeys for all road users." 5.271 states that applicants should consult relevant highway and transport authorities, local planning authority and Network Rail, as appropriate, on the assessment of transport impacts. 5.275 states that for road and rail developments, applicants should include an assessment of the transport impacts on other networks as part of the application, based on discussions with the Local Highway Authority / Local Transport Authority / Local Planning Authority.
Airports National Policy Statement (ANPS) (2018)[3]	This document sets out the Government's objective for surface access to ensure that access to the airport by road, rail and public transport is high quality, efficient and reliable for passengers, freight operators and airport workers who use transport on a daily basis.

[2] Department for Transport 2024. National Networks National Policy Statement. Published March 2024. Updated May 2024. Available at: https://assets.publishing.service.gov.uk/media/65e76aabce8540001c12c41c/national-networks-national-policy-statement-print.pdf (accessed on: 24/07/2026).
[3] Department for Transport 2018. Airports National Policy Statement. Published June 2018. Available at: https://www.gov.uk/government/publications/airports-national-policy-statement (accessed on 08/09/2026).

Relevant Policy	Relevance to Assessment
	The 'Surface access' section (paragraphs 5.5 – 5.21) sets out that the applicant must prepare an airport surface access strategy in conjunction with its Airport Transport Forum (paragraph 5.9). 5.9 continues to state "the airport surface access strategy must reflect the needs of the scheme contained in the application for development consent, including any phasing over its development, implementation and operational stages, reflecting the changing number of passengers, freight operators and airport workers attributable to the number of air traffic movements. The strategy should reference the role of surface transport in relation to air quality and carbon. The airport surface access strategy must contain specific targets for maximising the proportion of journeys made to the airport by public transport, cycling or walking. The strategy should also contain actions, policies and defined performance indicators for delivering against targets, and should include a mechanism whereby the Airport Transport Forum can oversee implementation of the strategy and monitor progress against targets alongside the implementation and operation of the preferred scheme." 5.10 – 5.12 set out that the implications of airport expansion on surface access network capacity should be assessed using the DfT's WebTAG guidance, and specifies consultation with Highways England, Network Rail and relevant highway and transport authorities and transport providers. 5.13 sets out that for schemes impacting the strategic road network, the applicant should have regard to DfT Circular 01/2022 and National Networks NPS.

Relevant Policy	Relevance to Assessment
	5.17 states that applications for development consent and accompanying airport surface access strategy will include details of how the applicant will increase the proportion of journeys made to the airport by public transport, cycling and walking to achieve a public transport mode share of at least 50% by 2030, and at least 55% by 2040 for passengers.
Proposed draft revision to the Airports National Policy Statement *Heathrow Expansion National Policy* Statement[4] (2026)	This draft document sets out the Government's position on the expansion of Heathrow, expected to comprise of a complete Northwest Runway scheme. Paragraph 1.20 states that the Heathrow Expansion National Policy Statement (NPS) will have effect only after final publication but can be an important and relevant consideration in the decision-making process. Paragraphs 4.7 to 4.11 set out how the Heathrow Expansion NPS applies in relation to the National Networks NPS. The most relevant elements of the guidance are set out below. 4.7 "The National Networks NPS sets out the Government's policies to deliver development of nationally significant infrastructure projects on the national road and rail networks and strategic freight interchanges". It provides planning guidance for Nationally Significant Infrastructure Project (NSIP) promoters on the road and rail networks and sets out the basis for examination and decisions by the Secretary of State. 4.8 "Where the applicant's proposals in relation to surface access meet the thresholds to qualify as Nationally

[4] Department for Transport 2026. Proposed draft revision to the Airports National Policy Statement. To be known as the Heathrow Expansion National Policy Statement. Published June 2026. Available at: https://assets.publishing.service.gov.uk/media/6a3923ed0bea238415c9a3a9/proposed-draft-revision-to-the-anps-to-be-known-as-the-henps.pdf (accessed on 24/07/2026).

Relevant Policy	Relevance to Assessment
	Significant Infrastructure Projects under the Planning Act 2008 or are associated developments under section 115 or are directed to be treated as a Nationally Significant Infrastructure Project under section 35 of the Planning Act 2008, the Secretary of State will consider those aspects by reference to both the National Networks NPS and the Heathrow Expansion NPS, as appropriate." 4.9 "The Secretary of State will consider any relevant nationally significant road and rail elements of the applicant's proposals in accordance with the National Networks NPS and with the Heathrow Expansion NPS." 4.10 sets out that other NPSs, for example Energy or Water, should also be considered where appropriate. 4.11 "If there is conflict between the Heathrow Expansion NPS and other NPSs, the conflict should be resolved in favour of the Heathrow Expansion NPS as the NPS most relevant to the scheme." Section 5 sets out the Assessment of impacts that applicants will need to carry out. The mitigation of air quality impacts requires the following range of measures: "surface access arrangements including for passengers, road freight and staff travel; airport operations; and during construction" (Paragraph 5.20). This is developed further in Paragraph 5.21, as below: 5.21 "In respect of the provision of surface access to the Northwest Runway scheme, the applicant must set out and regularly review its plans to meet the mode share targets set out in the Surface Access section of this NPS. The Secretary of State, when considering any application

Relevant Policy	Relevance to Assessment
	for development consent, would also expect to see evidence that the following measures to mitigate the air quality impacts of surface access have been considered: • A surface access strategy that incentivises mode shift to public transport and active travel, and prioritises environmental sustainability, in line with the requirements set out in the Surface Access section of this NPS; • Zero- or low-emission hybrid or electric vehicle charging and fuel facilities including for coaches, buses, taxis, private hire vehicles and heavy goods vehicles; • Changes to the layout of surface access arrangements; • Traffic restrictions and / or traffic relocation around sensitive areas, including speed control on roads; • An emissions-based access charge with higher charges for vehicles that produce more emissions (both tailpipe and non-tailpipe); A strategy for the minimisation of air quality impacts from road freight; and • Physical means, including barriers to trap or better disperse emissions." Paragraph 5.103 sets out the "Government's objectives for surface access to an expanded Heathrow are making public transport the first choice for airport users, minimising the impact on the road network and prioritising environmental sustainability." In terms of assessment, paragraph 5.114 sets out that analysis should be undertaken using the Department for Transports (DfT's) Transport Analysis Guidance (TAG). Paragraph 5.115 defines passenger public transport mode shares of at least 50%

Relevant Policy	Relevance to Assessment
	when annual terminal passenger capacity is 116m or more, and at least 55% when annual terminal passenger capacity is 130m or more. It advises close consultation with National Highways, due to the likely significant impact on the M25. 5.123 sets out that “For any works impacting on the strategic road network, the applicant should have regard to the Department for Transport's Circular 01/2022, The Strategic Road Network and the delivery of sustainable development (or prevailing policy), and the National Networks National Policy Statement. This sets out the way in which the highway authority for the strategic road network will engage with communities and the development industry to deliver sustainable development and economic growth, whilst safeguarding the primary function and purpose of the network.” 5.135 requires a detailed construction management plan to support an application for development consent. “The promoter’s approach to construction should be designed to avoid, reduce and mitigate adverse effects on the strategic and local road network, existing surface access arrangements, and the safe and efficient operation of Heathrow Airport. The plan should set out how construction traffic, workforce travel, plant, materials, spoil and waste will be managed and phased so as to minimise disruption to passengers, airport workers, freight operators, local communities and other network users.” This should include measures to reduce congestion, maintain access, protect road safety and limit impacts on local communities and journeys, through measures such as construction traffic routing and timing, consolidation of deliveries and the use of

Relevant Policy	Relevance to Assessment
	other sustainable modes where feasible. The plan should set out monitoring arrangements and arrangements for implementing corrective action should targets not be met.
National Planning Policy Framework[5] (NPPF) (2026)	The NPPF sets out the Government's planning policies for England. Chapter 15 considers the promotion of sustainable transport. Policy TR1 sets out that "sustainable transport should be considered from the earliest stages of plan-making, so that it is reflected in the vision for the plan area and its specific proposals and forms an integral part of a plan's strategy for creating well-designed, sustainable, inclusive and popular places." It sets out several elements that this should involve. Of relevance to this chapter is point (e), as follows: "Providing for any transport facilities that need to be located in the area, or for their necessary expansion or adaptation, and the infrastructure and wider development required to support them. This includes uses such as ports, airports, lorry parking facilities, freight interchanges, public transport hubs, roadside services, electric vehicle charging and bus and rail depots. In doing

[5] Ministry of Housing, Communities and Local Government, Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government, National Planning Policy Framework. Published March 2012. Updated August 2026. Available at: https://assets.publishing.service.gov.uk/media/6a8334c03bd75b81e2329ac4/National_Planning_Policy_Framework.pdf (accessed on: 21/08/2026).

Relevant Policy	Relevance to Assessment
	so plan-makers should consider whether such development is likely to be a nationally significant infrastructure project and any relevant national policy statements, and the importance of maintaining a national network of aviation airfields." Policy TR3 regards locating development in sustainable locations. It sets out "so that development is located where it can support sustainable patterns of movement, enable good accessibility for different users and make the most of existing and proposed transport infrastructure, development proposals should reflect the following principles, taking into account the vision for the site, the type of development and its location", of which point (d) is "the environmental impacts of traffic and transport infrastructure should be identified, assessed and taken into account – including taking opportunities to avoid or mitigate any adverse environmental effects, and to secure net environmental gains such as reductions in air pollution."
Policy - Local	
The London Plan – The Spatial Development Strategy for Greater London (2021)[6]	The London Plan provides the Spatial Development Strategy (SDS) that sets out the integrated economic, environmental, transport and social framework for the development of London from 2021 to 2041. Chapter 10 regards Transport. Policy T3 considers Transport capacity connectivity and safeguarding. Part E sets outs that "development proposals should support capacity, connectivity and other

[6] Greater London Authority, The London Plan – The Spatial Development Strategy for Greater London. Published March 2021. Available at: https://www.london.gov.uk/sites/default/files/the_london_plan_2021.pdf (accessed on 07/09/2026).

Relevant Policy	Relevance to Assessment
	improvements to the bus network and ensure I can operate efficiently to, from and within developments, giving priority to buses and supporting infrastructure as needed." Policy T4 regards assessing and mitigating transport impacts. It refers to transport assessments in accordance with national or local guidance, appropriate mitigation, cumulative impacts of development and that development proposals should not increase road danger. Policies T5 and T6 are also of relevance and attend to Cycling and Car Parking respectively. Policy T8 regards Aviation. It sets out the following that are of relevance to traffic and transport: A: "The Mayor supports the role of the airports serving London in enhancing the city's spatial growth, particularly within Opportunity Areas well connected to the airports by public transport and which can accommodate significant numbers of new homes and jobs. This should be reflected in relevant Development Plans and other area-based strategies." B: "The environmental and health impacts of aviation must be fully acknowledged, and aviation-related development proposals should include mitigation measures that fully meet their external and environmental costs, particularly in respect of noise, air quality and climate change. Any airport expansion scheme must be appropriately assessed and if required demonstrate that there is an overriding public interest or no suitable alternative solution with fewer environmental impacts."

Relevant Policy	Relevance to Assessment
	D: “All airport expansion development proposals that would impact on passenger movements through London should demonstrate how public transport and other surface access networks would accommodate resulting increases in demand alongside forecast background growth; this should include credible plans by the airport for funding and delivery of the required infrastructure.” E: “Development proposals that would lead to changes in airport operations or air traffic movements must take full account of their environmental impacts and the views of affected communities. Any changes to London’s airspace must treat London’s major airports equitably when airspace is allocated.” F: “Development proposals should make better use of existing airport capacity, underpinned by upgraded passenger and freight facilities and improved surface access links, in particular rail.” G: “Airport operators should work closely with airlines, Transport for London and other transport providers and stakeholders to ensure straightforward, seamless and integrated connectivity and to improve facilities and inclusive access. They should also increase the proportion of journeys passengers and staff make by sustainable means such as rail, bus and cycling, and minimise the environmental impacts of airport servicing and onward freight transport.”
Draft London Plan – The Spatial Development Strategy for Greater London (2026)[7]	The Draft London Plan is undergoing public consultation. Once adopted, it will steer London’s growth to 2050.

[7] Greater London Authority. Draft London Plan – The Spatial Development Strategy for Greater London. Published July 2026. Available at: https://www.london.gov.uk/sites/default/files/2026-09/Draft-London-Plan-2026-web-version.pdf (accessed on 07/09/2026).

Relevant Policy	Relevance to Assessment
	Policy MBUL5 regards Sustainable transport to enable London's growth. It aims to "enable additional transport connectivity, manage network capacity and facilitate continued public transport operations." Policy GLE9 regards Aviation. It sets out the following that are of relevance to traffic and transport: A: "London's six main airports – as a single aviation system – should make the best use of existing capacity to ensure sustainable economic growth and jobs in local communities, supported by enhanced surface access by public transport, walking and cycling for passengers, staff and freight, combined with measures to discourage car use." B: "Proposals for expansion at Heathrow and other airports should be refused unless no unacceptable environmental, transport, and congestion impacts are demonstrated." C: "Proposals for expansion at Heathrow should be subject to commitment to contribution, provision, and/or improvement of sustainable surface access as identified in MBUL1 Spatial Strategy, the key diagram and Annex D." E: "Aviation-related proposals that result in a change in airport operations or air traffic movements should be assessed against the policies of this Plan and should: (1) assess and fully address their environmental and health impacts (2) (3) (4) fairly share the benefits with local and affected communities contribute towards sustainable surface access, demonstrating that any additional trips will be made by public transport, walking and cycling, and that transport networks can accommodate the additional demand alongside forecast background growth, and engage with local

Relevant Policy	Relevance to Assessment
	communities and other stakeholders to consider all impacts and their mitigation." Policy GHR11 regards cycle and car parking. It aims to "facilitate cycling and limit car parking in new development to reduce car use and enable optimisation of sites."
Hillingdon Local Plan – A Vision for 2026 (2012)[8] & Local Plan Part 2 – Development Management Policies (2020)[9]	Hillingdon's Local Plan was adopted in November 2012. It sets out the vision for Hillingdon for 2026. Policy T2 regards public transport interchanges at locations including Heathrow Airport, stating that "these interchanges will encourage subsequent shorted journeys to be completed on foot or by cycle." Policy T3 regards North-South sustainable transport links, and states that "the Council will improve north-south public transport links in the borough and link residential areas directly with employment areas and transport interchanges." Policy T4 regards Heathrow Airport. It sets out that "recognising the economic importance of the airport to the borough this Hillingdon Local Plan: Part 1-Strategic Policies will support the sustainable operation of Heathrow within its present boundaries and growth in the Heathrow Opportunity Area by facilitating improvements to public transport and cycle links, enhancing the public transport interchange to provide the opportunity for a modal shift from the use of private cars and from short haul air to sustainable transport modes and providing transport

[8] Hillingdon Council, Local Plan – A Vision for 2026. Adopted November 2012. Available at: https://pre.hillingdon.gov.uk/downloads/file/2206/local-plan-part-1-strategic-policies (accessed on 07/09/2026).
[9] Hillingdon Council, Local Plan Part 2 – Development Management Policies. Adopted January 2020. Available at: https://pre.hillingdon.gov.uk/downloads/file/2211/hillingdon-local-plan-part-2-development-management-policies (accessed on 21/09/2026).

Relevant Policy	Relevance to Assessment
	infrastructure to accommodate economic and housing growth whilst improving environmental conditions, for example noise and local air quality for local communities." Part 2 of the Local Plan provides the Development Management policies. Policy DMAV 2 regards Heathrow Airport. It sets out that A) "Development proposals within the Heathrow Airport boundary will only be supported where: i. They relate directly to airport related use or development; ii. There is no detrimental impact to the safe and efficient operation of local and strategic transport networks; iii. They comply with Policy DMEI 14: Air Quality; iv. There are no other significant adverse environmental impacts; where relevant, an environmental impact and/or transport assessment will be required with appropriate identification of mitigation measures; and v. They comply with all other relevant policies of the Local Plan."
Buckinghamshire Draft Local Plan 2024 – 2045 Regulation 19 Publication (2026)[10]	Buckinghamshire's Regulation 19 Draft Local Plan sets out the long-term strategy for managing growth and development in Buckinghamshire to 2045.

[10] Buckinghamshire Council, Draft Local Plan 2024 – 2045. Regulation 19 July 2026 (Not Adopted). Available at: https://www.buckinghamshire.gov.uk/planning-building-and-environment/policy/buckinghamshire-local-plan/reg-19-consultation/ (accessed on 21/09/2026)

Relevant Policy	Relevance to Assessment
	Policy TR6 regards Aviation development. It sets out that "Aviation development that affects Buckinghamshire, including flight paths and construction traffic, will only be supported where it would not have a significant adverse impact on: a) the environment, landscape, nature conservation interests and b) residents and businesses in terms of noise, adverse lighting, residential amenity, public rights of way, or health and safety."
Ealing Development Strategy 2026 (2012)[11]	Ealing's Development Plan is comprised of several Development Plan Documents (DPDs), one of which is the Development (or Core) Strategy, adopted in April 2012 and spanning the period up to 2026. It sets out the spatial vision for Ealing. It notes the role of Heathrow Airport as a significant employer, and how well connected by public transport Ealing is to Heathrow Airport.
Hounslow Local Plan 2015 – 2030 (2015)[12]	Hounslow's Local Plan was adopted in September 2015. It sets out the vision for Hounslow from 2015 to 2030. Policy EC1 regards strategic transport connections, setting out the approach to "work with partners to secure investments to existing and future strategic transport connections, including London Underground, rail, bus and cycle and highway services. These enhancements will maximise the borough's regeneration potential and support growth whilst also helping achieve our environmental objectives." Part f specifically mentions Heathrow Airport, setting out that this will

[11] Ealing Council, Development Strategy 2026. Adopted April 2012. Available at: https://www.ealing.gov.uk/download/downloads/id/19446/development_strategy_2026_-_development_plan_document.pdf (accessed on 07/09/2026).
[12] London Borough of Hounslow, Local Plan 2015 to 2030. Adopted September 2015. Available at: https://www.hounslow.gov.uk/downloads/file/13227/hounslow-local-plan-part-1-direct (accessed on 07/09/2026).

Relevant Policy	Relevance to Assessment
	be achieved by "supporting improved access to Heathrow Airport through new southern rail access." Policy EC2 regards developing a sustainable local transport network, through an approach to "secure more sustainable local travel network that maximises opportunities for walking, cycling and using public transport, reduces congestion, improves the public realm and improves health and well-being." Policy EC3 regards Heathrow Airport, setting out that "we will encourage a more sustainable Heathrow Airport by working with the airport operator and other partners to reduce environmental impacts, whilst recognising the role of the airport in the local economy."
Hounslow Draft Local Plan 2020 – 2041 Regulation 19 Publication[13]	This sets out the vision for the borough up to 2041, underpinned by planning and land use policies. Chapter 10 regards enhancing connectivity. Policy EC1 regards strategic transport connections, of which part E sets out "promoting improvements to bus facilities, networks and services" in specified areas, including the Heathrow Opportunity Area. Part H sets out "supporting improved access to Heathrow Airport through new southern public transport access." Policy E3 regards Heathrow Airport. It sets out the approach to "encourage a more sustainable Heathrow Airport by working with the airport operator and other partners to reduce environmental and traffic impacts, whilst recognising the role of the airport in the local economy and

[13] London Borough of Hounslow, Local Plan 2020 to 2040. Regulation 19 September 2024 (Not Adopted). Available at: https://www.hounslow.gov.uk/downloads/file/13942/hounslow-local-plan-2020-2041-proposed-submission-version (accessed on 21/09/2026).

Relevant Policy	Relevance to Assessment
	promoting sustainable travel by passengers, staff and supply chain to the Airport." This will be achieved by: "A. Opposing the future expansion of Heathrow Airport, including additional runway and terminal capacity; B. Opposing the removal of the air transport movement limit at Heathrow Airport of 480,000 per annum; C. Giving due consideration to the International Civil Aviation Authority's Guidance on the Balanced Approach to Aircraft Noise Management when making decisions regarding the airport or those parts of the borough affected by the airport; D. Continuing to monitor developments relating to airport expansion and, if necessary, bringing forward any revised approach to the spatial strategy in a future review (or update) of the Plan. E. Promoting increased surface access provision to Heathrow Airport, by working with partners to improve public transport connections and cycle infrastructure, and utilising the road network more efficiently; F. Supporting initiatives that promote modal shift towards the more sustainable forms of transport to and from Heathrow Airport; and G. Recognising and utilising the important role Heathrow Airport plays in stimulating economic growth in the borough." It sets out that development proposals will be expected to: H. Demonstrate that air and noise pollution from aircraft movements, the airport's infrastructure and transport to and from

Relevant Policy	Relevance to Assessment
	the airport, avoid adverse impacts on the borough; I. Assess and illustrate the noise impacts of any development proposal, including the use of alternative noise metrics (i.e. alternative in addition to the dB LAeq 16h); J. Demonstrate that all reasonable steps have been taken to reduce the risk of safety related incidents occurring; K. Demonstrate that adverse impacts on the Green Belt, Metropolitan Open Land, open space and biodiversity are avoided; L. Demonstrate that adverse impacts on the borough's transport network and the wider strategic transport network are avoided; M. Have a positive impact on the local economy; and N. Be complaint with the government's policy on control of development in airport Public Safety Zones"
Slough Development Plan Document Core Strategy 2006 – 2026 (2008)[14]	Slough's Core Strategy sets out the long-term overall vision for how the area should develop. Core Policy 7 regards Transport. As part of this, it sets out that "development proposals will also have make contributions to, or provision for… the improvement of key transport corridors such as the links to Heathrow Airport."
South Buckinghamshire Local Plan (1999)[15]	South Buckinghamshire's Local Plan was adopted in 1999. Policy TR12 regards the West Drayton to Poyle Railway Line, setting out that

[14] Slough Borough Council, Core Strategy Development Plan Document 2006 – 2026. Adopted December 2028. Available at: https://www.slough.gov.uk/downloads/file/2273/development-plan-core-strategy-2006-2026 (accessed on 21/09/2026).
[15] South Buckinghamshire District Local Plan. Adopted March 1999, Consolidated February 2011. Available at: https://media.buckinghamshire.gov.uk/documents/South_Bucks_local_plan_j4D6YG4.pdf (accessed on: 21/09/2026).

Relevant Policy	Relevance to Assessment
	"development which would prejudice the potential use of the West Drayton to Poyle railway line for rail services will not be permitted." This is due to it having been "identified as having potential for improving public transport access to Heathrow Airport from the west although no specific proposals have been presented."
Spelthorne Local Plan 2024 – 2039/40 (2026)[16]	Spelthorne Borough Council's Local Plan sets out the policies and allocations to guide the development and infrastructure in the Borough. Policy SP1: Staines-upon-Thames refers to excellent road links to Heathrow Airport, with growth of the town dependent on infrastructure to "capitalise on the proximity to Heathrow Airport." Improving sustainable travel access to Heathrow Airport is referred to in SP3: Stanwell and Stanwell Moor. Policy SP7 regards Heathrow Airport, and specifically its possible expansion. It sets out the following "The Council will support a future expansion at Heathrow Airport if it is undertaken in a sustainable and integrated way by: a) working strategically with local authorities around Heathrow Airport. b) permitting development proposals outside the airport or Development Consent Order (DCO) Limits boundary in the Borough for Airport Supporting Development (ASD) particularly those that support economic development if they: • protect and enhance designated areas of existing

[16] Spelthorne Borough Council Local Plan 2024 – 2039/40. Adopted March 2026. Available at: https://www.spelthorne.gov.uk/page/1383/local-plan-march-2026 (accessed on: 21/09/2026).

Relevant Policy	Relevance to Assessment
	environmental character including Sites of Nature Conservation Importance, areas of landscape value, the Borough's historic and cultural heritage (including historic buildings and Conservation Areas), habitats particularly within Biodiversity Opportunity Areas, Colne Valley Regional Park and open space of amenity and recreation value; • demonstrate ecological offsetting and incorporate mitigation measures to achieve at least 10% biodiversity net gain; • ensure safeguards are in place to mitigate air, noise, light and other pollution in the Borough; and • offer high-quality design of buildings and structures. c) resisting inappropriate development in the Green Belt unless the harm is outweighed by very special circumstances. d) supporting the implementation of a range of surface access interventions to encourage modal shift towards more sustainable forms of transport such as: • promoting sustainable transport choices which reduce the need to travel; • improving surface access to minimise airport related traffic (congestion) as the Borough as a whole;

Relevant Policy	Relevance to Assessment
	• promoting initiatives such as car sharing/clubs, the use of electric vehicles, low emission cars and colleague shuttle buses from the surrounding areas and; e) supporting southern rail access including the promotion of the Southern Light Rail (SLR) where there is benefit to communities in the Borough and the wider strategic network." The policy then continues to consider Hazardous Development, Noise from Heathrow and Development Close to Heathrow and Noise from Heathrow.
London Borough of Richmond upon Thames Local Plan 2024 – 2039 (2025)[17]	Richmond's Local Plan sets out the 15-year strategic vision, objectives and spatial strategy. The Local Plan sets out that it does not contain a policy on Heathrow but holds the position that the Council "remain opposed to the Government's decision to expand Heathrow Airport."
Royal Borough of Windsor & Maidenhead Local Plan 2013 – 2033 (2022)[18]	Windsor & Maidenhead's Local Plan was adopted in February 2022. It sets out the spatial strategy and policies for managing development and infrastructure. It notes the proximity to Heathrow Airport. Policy IF2 regards sustainable transport, stating that "development proposals should support the policies and objectives of the Transport Strategy as set out in the Local Transport Plan, or any successor document."

[17] London Borough of Richmon upon Thames Local Plan 2024 – 2039. Adopted October 2025. Available at: https://www.richmond.gov.uk/adopted_local_plan (accessed on 22/09/2026).
[18] Royal Borough of Windsor & Maidenhead, Borough Local Plan 2013 – 2033. Adopted February 2022. Available at: https://www.rbwm.gov.uk/planning-and-building-control/planning-policy/development-plan/adopted-local-plan (accessed on 07/09/2026).

Relevant Policy	Relevance to Assessment
Runnymede Local Plan 2030 (2020)[19]	Runnymede's Local Plan provides the framework to guide future development in the Borough. It notes the excellent road connections to Heathrow Airport. It identifies the Potential Southern Rail Access to Heathrow (irrespective of airport expansion) as a proposed and potential strategic transport and infrastructure project.

Table 21-2: Guidance Relevant to the Traffic and Transport Assessment

Relevant Guidance	Relevance to Assessment
Guidance - National	
DfT Transport Analysis Guidance[20] (2013)	National guidance on transport appraisal and modelling.
DMRB LA 104[21] (2020)	Establishes approach for the environmental assessment of projects.
DfT Circular 01/2022[22]	Sets out how the highway authority for the Strategic Road Network (SRN) will engage with communities and the development industry to deliver sustainable development / economic growth whilst safeguarding the primary function and purpose of network.
ISEP Environmental Assessment of Traffic and Movement (2023)[1]	Provides a framework for the evaluation and reporting of the environmental effects of road traffic and transport.

21.2.1.2 TfL best practice guidance relating to Transport Assessments, healthy streets, the promotion of active travel and construction logistics will also be taken into account.

[19] Runnymede Borough Council 2030 Local Plan. Adopted July 2020. Available at: https://www.runnymede.gov.uk/planning-policy/runnymede-2030-local-plan (accessed on 22/09/2026).
[20] Department for Transport, Transport Analysis Guidance. Published October 2013. Updated May 2026. Available at: https://www.gov.uk/guidance/transport-analysis-guidance (accessed on 14/08/2026).
[21] National Highways, DMRB LA104 Environmental Assessment and Monitoring. Published August 2020. Available at: https://www.standardsforhighways.co.uk/search/0f6e0b6a-d08e-4673-8691-cab564d4a60a (accessed on: 14/08/2026).
[22] Department for Transport and National Highways 2013. Published September 2013. Updated December 2022. Available at: https://assets.publishing.service.gov.uk/media/681a1c42a8cdfb0ccdb8e0cc/strategic-road-network-delivery-sustainable-development.pdf (accessed on: 24/07/2026).

21.2.1.3 The ES will provide review of other relevant local, regional and national policy guidance relevant to traffic and transport.

21.3 Stakeholder Engagement

21.3.1.1 Stakeholder engagement will be undertaken to inform the scope of the EIA Traffic & Transport chapter, and the preparation of the TA and SAS. Initial consultation has been undertaken as discussed within **Chapter 4: Approach to EIA**. This section sets out the approach to stakeholder engagement specific to Traffic & Transport, including a description of relative roles, functions and hierarchy of groups.

21.3.1.2 The discussion of baseline data sources and scope of the transport models will form an important component of the consultation. Any discussions and agreements with stakeholders regarding methodology will be documented.

21.3.1.3 Additional stakeholders will be consulted with throughout the progression of the Proposed Development. This will be appropriately documented and included in the ES.

21.3.1.4 **Table 21-3** below sets out a summary of stakeholder engagement. This will be updated throughout the EIA process.

Table 21-3: Engagement with Stakeholders

Consultee	Engagement Undertaken to Date	Proposed Future Engagement
National Highways	National Highways are responsible for operating, maintaining and improving England's Strategic Road Network, including motorways and major A roads. Its role includes advising on traffic impacts, access arrangements, junction performance, safety, construction effects, mitigation requirements and any works or protective provisions needed to safeguard the network. Introductory meeting held on 31st July and meeting to discuss non-technical elements held.	Future engagement planned.

Consultee	Engagement Undertaken to Date	Proposed Future Engagement
Heathrow Strategic Planning Group (HSPG)	HSPG is a voluntary partnership of local authorities and regional bodies surrounding Heathrow Airport. Two introductory sessions held.	Future engagement planned.
Heathrow Area Transport Forum (HATF)	The HATF is an engagement forum identified in the draft HENPS, bringing together Heathrow Airport and key stakeholders with an interest in surface access. An initial meeting was held on 27th July 2026. HATF are open to work with HWL and options for procurement are being explored.	Future engagement planned.
Transport for London (TfL)	TfL is a key transport authority and strategic stakeholder with responsibility for the operation, management and planning of London's transport network. Initial contact has been made, and an introductory meeting held on 16th September.	Future engagement planned.

21.3.1.5 Letters have been sent to the following local authorities: Buckinghamshire Council, Ealing Council, Elmbridge Borough Council, Hertfordshire County Council, Hillingdon Council, London Borough of Hounslow, London Borough of Richmond, Royal Borough of Windsor and Maidenhead, Runnymede Borough Council, Slough Borough Council, Spelthorne Borough Council and Surrey County Council.

21.3.1.6 Initial future engagement with these authorities is planned through HATF, with potential for further engagement with individual organisations / local authorities on specific issues as they emerge.

21.4 Study Area

21.4.1 Study Area

21.4.1.1 This Section sets out the approach to determining the study areas. The approach may be developed through consultation and will be informed by data collection.

21.4.1.2 The study areas will identify geographic locations which may be sensitive to changes in the traffic and transport network conditions. Three distinct study areas are under consideration; the Highway Study Area, Public Transport Study Area and Non-Motorised User Study Area.

Highway Study Area

21.4.1.3 The Highway Study Area defines the bounds for the identification of user groups and sensitive locations which may be influenced by changes in the traffic and transport network conditions.

21.4.1.4 The Highway Study Area for assessment will be based on the geographical scope of the highways model for all phases (construction and operational) of the Proposed Development.

21.4.1.5 A range of transport modelling will be required to provide an understanding of the various levels of predicted impacts associated with the proposed scheme and we will utilise and enhance existing models to assess the proposals. The models will be used to assess how the highway network responds to forecast future demand, identifying locations where traffic flow conditions are expected to change and providing an indication of the resulting impacts on network performance.

21.4.1.6 The model development, calibration and validation processes will be subject to appropriate consultation.

21.4.1.7 **Figure 21-1** indicates an area of detailed modelling and rest of the modelled area.

21.4.1.8 Locations within the study area will be refined to identify locations where the Proposed Development is expected to generate traffic changes above the applicable assessment thresholds. This process, informed by ISEP Rules 1 and 2 that relate to increase in traffic flows of 30% or 10% on sensitive links (**Section 21.9: Proposed Approach to Assessment**), will determine the locations requiring detailed assessment of traffic and transport effects.

21.4.1.9 Locations where changes remain below the relevant thresholds will not be assessed further within this chapter, although they may still be considered as part of other environmental assessments, such as air quality, where appropriate.

21.4.1.10 The Highway Study Area will be used to assess the traffic and transport impact to all highway users, including pedestrians (and wheelchair users) and cyclists.

Public Transport Study Area

21.4.1.11 The initial Public Transport Study Area is anticipated to be based on TfL's Railplan model extent. The study area incorporates the key rail and bus routes that serve Heathrow Terminal 5. This includes the following rail corridors:

- TfL Rail (Elizabeth Line);
- Heathrow Express;
- Picadilly Underground Line

21.4.1.12 The assessment of public transport services will be determined by where the forecasts indicate a change in provision, capacity, crowding or delay that exceeds the acceptable level. These thresholds will be defined, once the baseline and extent of change have been reviewed. Due regard will be given to appropriate guidance and consultees.

21.4.1.13 The extent of the Public Transport Study Area will be defined following review of the modelling results. Any changes to the study area following this will be suitably documented and accompanied by data collection, where needed.

21.4.1.14 Where physical changes to bus and passenger coach facilities result in changes to journey distance of more than 400m, these will be scoped in for effects on the public transport network.

Non-Motorised User Study Area

21.4.1.15 The Non-Motorised User Study Area comprises the highway study and beyond, to include locations where physical changes to infrastructure may affect non-motorised user routes and facilities.

21.4.1.16 Non-motorised user effects include both traffic-related effects and effects on non-motorised user infrastructure. The proposed study area will comprise the Highway Study Area and locations beyond that are subject to changes that could affect non-motorised users.

21.5 Sources of Data used in Scoping

21.5.1 Baseline Sources

21.5.1.1 The baseline sources of data required to inform both this assessment and the TA have been identified. The collection of supporting data is ongoing. The following baseline sources have been identified;

- Traffic surveys (e.g. Link Counts and Automatic Number Plate Recognition (ANPR)) undertaken by a third-party provider. This will be supplemented by data held by National Highways and local highway authorities;
- Public bus route information, to include timetables, routing and stop locations. This is to be obtained from bus service providers;
- Highway safety data, including STATS19 Personal Injury Collision (PIC) data. This is to be obtained and supplemented with detailed PIC data from the local highway authority such as TfL's London Collision Map, as appropriate;
- TfL datasets, including cycle routes on or adjacent to the highway;

- Walk Wheel Cycle Trust's (formerly Sustrans) National Cycle Network map for routes on the public highway only;
- Qualitative supplementary information from site visits and walkovers, anticipated to most predominantly inform the assessment of walking and cycle infrastructure.

Table 21-4: Data sources used for Scoping

Source	Relevance to the Assessment
Baseline Traffic Surveys	Baseline surveys undertaken in July 2026 in accordance with DfT TAG Unit M1.2[23]. Surveys to inform the model.
Civil Aviation Authority (CAA) data	CAA Passenger Survey Data (2024) to provide information on passenger numbers and passenger survey information, including landside mode of transport, landside origin and landside group size.

21.6 Baseline Conditions

21.6.1.1 This Section sets out the baseline conditions. The future baseline conditions including committed development will be considered within the transport modelling and set out within the ES. **Section 21.9.2** provides further detail on the assessment years.

21.6.1 Baseline Description

21.6.1.2 Heathrow Airport currently serves almost 85 million passengers per year (over 70% of which are starting or ending their flying journey there). It is one of the UK's largest employers, with over 80,000 people working in the airport.

21.6.1.3 Baseline passenger mode share information has been derived using the 2024 CAA Departing Passenger survey data.

- Public transport final mode share of 41.4% (comprising 27.0% London Underground and Elizabeth Line, 9.9% bus and coach, and 4.6% National Rail services)
- Taxi mode share of 31.4% (including minicabs and uber)
- Private car mode share of 26.7% (consisting of 10.0% using car parks on/off site, 14.9% being dropped off by a relative or friend, and 1.8% using a hire car)

[23] Department for Transport 2013. TAG unit M1-2 data sources and surveys. Published October 2013. Updated May 2024. Available at: https://assets.publishing.service.gov.uk/media/664db4debd01f5ed32793ffc/tag-m1-2-data-sources-and-surveys.pdf (accessed on: 24/07/2026).

21.6.1.4 The transport baseline conditions are set out below. Information is provided in relation the main routes to and from the airport. These routes are anticipated to have the greatest uplift in demand as a result of the Proposed Development and are therefore most likely to be subject to impacts. These impacts are expected to affect both airport-related trips and the wider non-airport related trips.

Highway

21.6.1.5 There is an extensive road network in the vicinity of the Proposed Development.

21.6.1.6 The SRN comprises all motorway and major trunked A roads. The SRN provides connectivity across England and is managed by Highways England. The SRN in proximity to Heathrow comprises the M4 and M25 (both benefitting from direct access), the M40 to the north, the A3113 Airport Way to the west, and M3 and A30 (to its junction with the A3044) to the south.

21.6.1.7 The M25 motorway encircles most of Greater London. It provides connection to the M1, A1(M), M11, M2, M20, M26, M23, M3, M4 and M40 (clockwise from north). The M25 within the vicinity of Heathrow generally comprises four lanes, however this is increased to five lanes between Junction 12 and 14 and increased to six lanes between Junction 14 and 15.

21.6.1.8 The M25 is located c.1.2km west of Terminal 5 and traverses past Heathrow in a general north-south direction. The Southern Perimeter Road can be accessed from Junction 14 via the A3113 and the Western Perimeter Road can be accessed from Junction 14a.

21.6.1.9 The M4 is located c.2.3km north of Terminal 5 and traverses past Heathrow in a general east-west direction. The M4 can be accessed via the M25 or via the Tunnel Road (Emirates) roundabout. The M4 Langley Interchange provides access to the A4 which runs from Slough to Heathrow.

21.6.1.10 Many of the roads around Heathrow have some congestion at peak times, including key routes such as the M25, M4, A40, A30 and minor roads around the airport. **Figure 21-2** provides a figure of the road network around Heathrow.

Rail

21.6.1.11 Heathrow benefits from good rail accessibility from London, with three options available. These comprise the London Underground Piccadilly line, the Heathrow Express, and the Elizabeth Line. Rail stations are located at Terminals 2 and 3, 4 and 5, providing connection to central London and the wider rail network. These offerings are summarised below;

1. Piccadilly Line: The Picadilly line provides direct services between Heathrow and Piccadilly Circus at a service frequency of c.12 trains per hour in peak

periods. The journey time between Piccadilly Circus and Heathrow Terminal 5 is c.50 minutes.

2. Heathrow Express: The Heathrow Express is a dedicated non-stop service that has a journey time of c.20 minutes between Paddington and Heathrow Terminal 5, and a service frequency of c.4 trains per hour.
3. Elizabeth Line: The Elizabeth Line provides direct services between Heathrow and destinations across Central and East London, including Paddington and Tottenham Court Road. Services operate at a frequency of up to c.6 trains per hour. The journey time between Paddington and Heathrow Terminal 5 is c.35 minutes. Passengers travelling on the Reading branch can transfer at, or east of Hayes and Harlington, facilitating periphery connections.

Bus and Coach

21.6.1.12 Heathrow benefits from extensive local bus and coach connectivity that provides connection to destinations across Greater London, the South East and the wider UK. There are a total of 33 local bus services operating from Heathrow terminals, comprising 12 TfL services and 22 commercial services operated by other providers including First, Arriva, Reading Transport and National Express. Most services operate from Heathrow Central Bus Station, located between Terminals 2 and 3, with additional stops that serve Terminals 4 and 5.

21.6.1.13 TfL services provide extensive connection to destinations across Greater London. The core frequencies are no more than approximately 20 minutes, with some frequencies up to every 10 minutes. There are three 24hr services, and most services provide early morning departures from 03:00 onwards, and evening departures up to and past midnight. Four services call at Terminal 5, with other services calling at the Central Terminal Area only. The TfL bus network primarily caters to areas to the north, east, and south-west of Heathrow, all of which sit within the London Boroughs. Key local destinations served include Uxbridge, West Drayton and Hayes. TfL services also provide connectivity to key employment areas linked to the airport.

21.6.1.14 There are eight organisations operating commercial local bus services. These services have lower service frequencies than that of TfL services, but cover a broader geographic region, namely to the west / southwest and north of the airport, with some overlap to TfL services. Local bus services provide connection to destinations in Hertfordshire, Buckinghamshire, Berkshire, Hampshire and Surrey.

21.6.1.15 National Express operates scheduled coach services to destinations including London Victoria Coach Station, Gatwick Airport, Luton Airport and Stansted Airport, in addition to across the UK. Services to London Victoria operate up to every c.30 minutes and have a journey time of c.35 minutes, subject to traffic conditions.

21.6.1.16 Other specialist coach operators such as RailAir and the Airline provide regular services to destinations such as Reading, Watford Junction and Oxford.

Walking and Cycling

21.6.1.17 Active travel modes are used mainly for staff travel to, from and around the airport, in addition to non-airport related trips. The study area comprises footways and pedestrian crossings to accommodate pedestrian trips, and cycle provision including signed cycle routes, on or adjacent to carriageway. The non-motorised user study area includes additional active travel infrastructure that may be directly impacted by the Proposed Development.

Parking Drop Off and Pick Up

21.6.1.18 Heathrow has c.39,000 airport car parking spaces, with approximately 23,500 spaces for passengers and 15,500 spaces for staff. There are a further 12,500 spaces that are under the control of tenants around the airport, such as British Airways.

21.6.1.19 There are dedicated drop-off facilities at each Heathrow terminal via dedicated forecourt drop-off zones immediately outside the terminal buildings. A charge applies to each vehicle entering the drop-off facilities. Passenger pick up is permitted in all of Heathrow terminal car parks, with pricing structured in such a way to discourage long stay parking

Ultra Low Emission Zone (ULEZ) and Low Emission Zone (LEZ)

21.6.1.20 London's ULEZ aims to reduce air pollution in London. In 2023, the scheme was expanded to align to the LEZ and therefore to include Heathrow. Non-compliant cars, vans and motorcycles are subject to ULEZ charging. The LEZ aims to encourage heavy diesel vehicles to become cleaner.

21.6.1.21 The ULEZ and LEZ extend westwards to Stanwell Moor Road, and southwards to include the Southern Perimeter Road and the A30 Staines Road. The areas to the north and east of Heathrow are entirely covered by the ULEZ and LEZ.

21.7 Likely Significant Effects Requiring Assessment

21.7.1.1 This Section sets out the likely significant effects for the construction and operational phases of the Proposed Development in respect of traffic and transport.

21.7.1 Construction and Operation

21.7.1.2 The likely significant effects for each assessment phase are set out in **Table 21-5** below.

Table 21-5: Likely Significant Traffic and Transport Effects

Activity	Effect	Receptor
Construction		
Movement of materials to and from site, including HGV routing	Increase in Heavy Goods Vehicles (HGV), Light Duty Vehicles (LDV) and rail movements to and from the airport which could affect journey times, highway capacity and lead to severance or impact road safety.	Highway users Public transport users
Movement of construction workers to and from site, including variation in workforce travel demand according to phasing	Increased patronage of public transport services affecting capacity and crowding. Increasing the number of movements on the highway network may affect delay, congestion and severance.	Highway users Public transport users
Changes to road layouts or temporary traffic interventions or management (such as single lane working)	Changes to road layout or functionality leading to journey delay, congestion and severance or impact road safety.	Highway users Public transport users (not including rail)

Activity	Effect	Receptor
Movement of hazardous material to and from the site	Increase in HGV movements to and from the airport which could affect journey times, highway capacity and lead to severance or impact road safety.	Highway users
Movement of abnormal indivisible loads to and from the site	Increase in HGV movements to and from the airport which could affect journey times, highway capacity and lead to severance or impact road safety.	Highway users
Temporary changes to bus and coach passenger facilities and service routes	Routes may become longer or more difficult to access, which could affect journey time.	Public transport users
Changes to highway layouts and routing	Realignment of roads may sever existing non-motorised user routes, which could affect non-motorised delay and amenity.	Non-motorised users
Operation		
Movement of people (passengers, staff) to and from the Airport	Increased public transport patronage may cause capacity and crowding. Increasing the number of movements on the highway may affect delay, congestion and severance.	Highway users Public transport users

Activity	Effect	Receptor
Movement of people (passengers, staff) to and from the Airport by public transport	Schemes provided as part of the Specialist Air System (SAS) may provide a benefit to increased mode choice, improved journey time or improved accessibility to public transport services.	Public transport users
Movement of freight to and from the Airport	Increase in freight movements by rail and highway to and from the airport which could affect journey times, highway capacity and lead to severance or impact road safety.	Highway users Public transport users
Changes to bus service routes as a result of changes to road layouts	Routes may become longer or more difficult to access.	Public transport users
Changes to highway layouts and routing	Realignment of roads (M25 Junctions, A4 and A3044) may sever existing non-motorised user routes, which could affect non-motorised delay and amenity.	Non-motorised users
Changes to level of bus and coach service provision	Increased provision may cause congestion and road vehicle driver and passenger delay.	Highway users
Changes to number of inbound and outbound flights	Increased number of flights may cause distraction to road users and affect highway safety.	Highway users

Activity	Effect	Receptor
Changes to passenger demand and parking provision and cost	Increased passenger demand and changes to parking provision may cause fly parking and affect journey delay and highway safety.	Highway users

21.7.1.3 The definition of staff includes all maintenance workers, cargo industry workers, those in service industries, offices, hotels and supply chain companies as well as direct airport and airline employees.

21.8 Effects Not Requiring Assessment

21.8.1.1 This Section considers whether it is possible to scope out a type of impact from the assessment or effects on specific receptors.

21.8.1.2 Changes to aircraft movements and airspace design are considered through separate aviation and airspace assessment processes and are not assessed within the Traffic and Transport chapter, which is limited to surface access movements. The traffic and transport chapter therefore does not consider effects arising from travel by air. Effects on passengers travelling by air are unlikely to lead to significant traffic and transport effects and have therefore been scoped out of the ES.

21.8.1.3 The Study Areas also do not account for impacts of travel to or from destination or origin airports, and this is therefore scoped out of the assessment.

21.8.1.4 Temporary impacts lasting less than 4 weeks may be considered negligible. Appropriate justification will be provided where such impacts are considered negligible.

Table 21-6: Potential Effects to be Scoped Out of the Traffic and Transport Assessment

Activity	Effect	Receptor	Justification for Scoping Out
Travel by air	Effects under consideration do not cover travel by air	Receptors under consideration do not consider travel by air	Traffic and transport assessment considers surface access movements only

Activity	Effect	Receptor	Justification for Scoping Out
Temporary impacts lasting less than 4 weeks	Temporary highway works may sever existing non-motorised user routes, which could affect non-motorised delay and amenity, and/or could affect journey times, highway capacity and lead to severance or impact road safety	Highway users, non-motorised users	Temporary impacts unlikely to have significant effect
Surface access impacts outside of the Heathrow area at other airports	Increased passenger numbers to / from Heathrow could impact surface access of other airports and cause effects including severance or delay	Highway users, non-motorised users, public transport users	Consideration beyond surface access at Heathrow (i.e. at origin / destination airports) is beyond scope of assessment

21.8.1.5 Assessment of effects on users of PRoW will be provided within **Chapter 12: Recreation**. Assessment of air quality and noise effects of traffic will be included within Chapter **5: Air Quality and Odour**, and **Chapter 20: Noise and Vibration**.

21.9 Proposed Approach to Assessment

21.9.1.1 The Study Areas will remain under review as the design and consultation progresses. The proposed approach to the assessment will not change as study areas evolve.

21.9.1.2 The traffic and transport assessment parameters are set out below and will be updated once further data and work is progressed.

Table 21-7: Assessment Parameters for Traffic and Transport Assessment

Assessment Parameter		Construction	Operational	
Passengers	Total passengers (million passengers per annum)	84.5 million (2025)	116 million	130 million
Direct staff numbers	Total staff	80,000 directly supported (2025)	TBC	+20,000 TBC
Operational freight	Total daily freight and logistics trips	Circa 1.6 million tonnes (2024)	TBC	TBC
Construction staff numbers	Total staff	TBC	-	-
Construction demand	Maximum daily HGV numbers	TBC	-	-
	Maximum daily Light Commercial Vehicle (LCV) numbers	TBC	-	-

Assessment Parameter		Construction	Operational	
SAS measures		Construction staff buses Construction staff rail travel Active Travel provision Car sharing promotion Construction staff parking management Construction freight by rail	Inter Terminal Plaza (ITP) New bus services New Coach services Subsidised fares Improvements to rail services - TBC Limit and management of staff parking Promotion of staff car sharing Charging and pricing mechanisms Parkway and People Movers Reprovision of roads and junctions	ITP New bus services New Coach services Subsidised fares Improvements to rail services - TBC Limit and management of staff parking Promotion of staff car sharing Charging and pricing mechanisms Parkway and People Movers Reprovision of roads and junctions

21.9.1 Additional Baseline Information Required

21.9.1.3 The baseline information required will be reviewed if the Study Area evolves.

21.9.1.4 Other sources of data to be obtained include public bus routes (timetables, bus stop locations) from service operators, as in **Section 21.5**.

21.9.1.5 The TA and traffic and transport chapter will be informed by a suite of baseline reports, technical notes and supporting information to include the following:

- Highways – private vehicle flows, road freight flows, general highway infrastructure characteristics (e.g. speed restrictions, weight / height restrictions and carriageway width);
- Public transport – public bus, rail and underground service routing, frequencies and characteristics including capacity and crowding;
- Taxis – private hire vehicles and taxis, drop off and pick up provision and characteristics, including number of vehicles and their occupancies; and

- Non-motorised users – pedestrian and cyclists, to include understanding locations of on-road cycle provision, footways and crossing points.

21.9.1.6 The supporting information will be comprised of baseline data, desktop studies and site observations, collected in accordance with relevant standards and guidance where applicable.

21.9.1.7 The information outlined above will inform the development of a robust baseline. Following the establishment of the baseline, the assessment will identify locations where the agreed assessment thresholds are exceeded. The likely effects at these locations will then be evaluated to identify the scale and nature of the effect to determine the level of significance that such change may have.

Assessment Year Scenarios

21.9.1.8 The assessment year scenarios are proposed to enable the assessment of all phases of the Proposed Development, from construction through to operation.

21.9.1.9 The baseline year for the traffic and transport EIA will draw upon model base years and 2026 data collection as well as data available from local highway authorities and National Highways. The assessment will draw upon the latest bus service schedules and rail timetables. From this, a baseline (reference case) for each assessment year would be defined to enable assessment of the Proposed Development impact.

21.9.1.10 The construction strategy and phasing information required to define the construction year is not yet available. This does not impact the assessment approach. The assessment years will be defined in due course. The EIA will consider the construction and operational phases of the Proposed Development. Details of each of these proposed stages are set out in **Chapter 4: Approach to EIA**.

21.9.1.11 The purpose of the different assessment years is to account for the different stages of the Proposed Development. Between the assessment years, the baseline conditions could change as follows:

- Changes in traffic flows on the highway network
- Changes to the layout and provision of the public highway routes
- Changes in public transport provision or utilisation
- Changes in parking provisions

21.9.1.12 The ES will provide a comprehensive review of baseline conditions.

Assessment methodology

Traffic and Transport Effects

21.9.1.13 ISEP's (2023) guidance[1] sets out the following traffic and transport related impacts. In accordance with the guidance, the assessment will consider the following:

- Severance of communities
- Road vehicle driver and passenger delay
- Non-motorised user delay
- Non-motorised amenity (to include fear and intimidation on and by road users)
- Public transport amenity
- Road user and pedestrian safety
- Hazardous / large loads

21.9.1.14 These are set out in further detail below.

Severance of Communities

21.9.1.15 The guidance defines severance as "the perceived division that can occur within a community when it becomes separated by major transport infrastructure." This will assess how the physical changes to the road layout or changes in traffic flow affect community severance.

21.9.1.16 Factors including the road width, traffic flow and composition, traffic speeds, availability of crossing facilities and number of movements likely to cross the affected route will inform the assessment of severance. DfT threshold changes to traffic flows of 30%, 60% and 90%, considered 'slight', 'moderate' and 'substantial' will be used as a starting point for assessment.

Road Vehicle Driver and Passenger Delay

21.9.1.17 Traffic delays can occur at several points around a development site but are only likely to be significant where the development is already at or close to the capacity. This will assess how physical changes in the road layout or changes to traffic flow affect vehicle driver and passenger delay.

21.9.1.18 Junctions screened into the assessment will be considered. This assessment will be informed by the transport modelling technical work in the Transport Assessment which will provide an estimation of vehicle delays. This is likely to comprise Junctions 11 suite models and micro simulation models.

Non-Motorised User Delay

21.9.1.19 This will assess how the impact of physical changes to the road layout or changes in traffic flow affect the journey times for non-motorised users. The assessment of pedestrian delay will serve as a proxy for other non-motorised users. This is closely related to severance and will be grouped together for assessment purposes.

21.9.1.20 This assessment will consider changes in the volume, composition or speed of traffic that may affect the ability of people to cross the road, alongside the level of pedestrian activity, visibility and physical conditions of the development site.

21.9.1.21 Average journey speeds of 5km/hr for people on foot and 20km/hr for cyclists will be primarily assumed, and any route diversions will be considered in this context. Consideration for different walking speed criteria for vulnerable groups will also be made.

21.9.1.22 Professional judgement will be exercised to determine the significance of the effect.

Non-Motorised Amenity

21.9.1.23 This is defined as the "relative pleasantness of a journey", affected by traffic flow, traffic composition and pavement width/separation from traffic.

21.9.1.24 This includes pedestrian fear and intimidation, exposure to noise and air pollution, and the overall relationship between pedestrians and traffic. The 1993 Guidelines tentative threshold for significant change to non-motorised amenity as where the traffic flow or HGV component is halved or doubled will be used as a starting point for this assessment.

21.9.1.25 The effect of fear and intimidation will be assessed based on the total volume of traffic, heavy vehicle composition, vehicle speed and proximity of traffic to people. The proximity of traffic to people includes the feeling of lack of protection caused by a narrow pavement or constraint prevent people from stepping further from the moving traffic. Table 3.1 in the ISEP guidance will be applied.

21.9.1.26 This assessment will be undertaken on all links identified through the screening process. It will also include consideration of any proposed changes to highway layouts or non-motorised user provision that could affect amenity and fear and intimidation.

Public Transport Amenity

21.9.1.27 Public transport amenity is the relative pleasantness of a journey made by public transport.

21.9.1.28 Impacts on rail and London Underground services will be measured in terms of the number of people standing per square metre. The forecast change in crowding for each link will inform the assessment of the magnitude of impact of the Proposed Development.

21.9.1.29 Bus and coach operators have a greater degree of flexibility with regard to service frequency and route, in comparison to rail and London Underground services which are more fixed. It is therefore anticipated that service operators would amend their provision as required to accommodate changes in demand. As such,

the assessment of public transport amenity will consider changes to bus and coach passenger facilities.

Road User and Pedestrian Safety

21.9.1.30 Collision data will be reviewed to understand the baseline characteristics of the network, to highlight locations of collision clusters. Impacts will be assessed by assessing STATS19 collision data for the most recent 5-year period where data is available, to identify any emerging patterns or factors that could be exacerbated by changes in traffic flows.

Hazardous/Large Loads

21.9.1.31 This assessment will outline the estimated number and composition of hazardous/large loads. Where the number is significant, the assessment will consider the potential for an accident to occur and the likely effect of such event.

Screening

Highway Links

21.9.1.32 The screening process will be in accordance with the ISEP guidelines, as below.

- Rule 1: Include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%)
- Rule 2: Include highway links of high sensitivity where traffic flows have increased by 10% or more.

21.9.1.33 Consideration will be given to both forecast increases and decreases, in order to identify both negative and positive effects.

21.9.1.34 Highway links with high proportional changes due to low absolute baselines will be considered for screening out. Professional judgement will be applied to make this decision. This approach will be raised with the relevant highway authorities.

21.9.1.35 Any highway links subject to physical change as a result of the Proposed Development will be screened into the assessment.

Highway Junctions

21.9.1.36 The definition of screening criteria and threshold values will be determined through the TA scoping process, which will be applicable too to this context. This will involve the identification of junctions that may be subject to material impacts as a result of the Proposed Development.

Public Transport Network

21.9.1.37 A proportionate screening approach will be applied to determine those locations on the rail and London Underground networks where the Proposed Development has the potential to generate material transport effects. The preliminary screening

will identify all sections of the network currently experiencing moderate or high levels of crowding.

21.9.1.38 The assessment will also consider any modifications to bus and coach passenger facilities, together with changes to the highway network that require service rerouting and increase journey lengths by more than 400m. Such changes will be scoped into the transport assessment where relevant.

Non-Motorised User Network

21.9.1.39 Non-motorised user effects that are associated with changes in road traffic will be screened using the approach for highway links. Where the Proposed Development will result in physical changes to the non-motorised infrastructure, locations will also be assessed.

Magnitude, Sensitivity and Significance

Magnitude

21.9.1.40 The following criteria will be used to determine the magnitude of impact (change). This is in accordance with Table 3.4N of Design Manual for Roads and Bridges (DMRB) LA 104[24]. Each magnitude category covers both adverse and beneficial impacts.

- Major – Substantial change to the infrastructure or service provisions, and severe departure from baseline conditions
- Moderate – Considerable change to the infrastructure or service provisions, partial departure from baseline conditions
- Minor – Measurable change to the infrastructure or service provisions, slight departure from baseline conditions
- Negligible – Very minor change to the infrastructure or service provisions, very minor alteration to baseline conditions
- No change – No loss or alteration of infrastructure of service provisions, no loss or alteration from baseline conditions

Sensitivity

21.9.1.41 Receptors for the traffic and transport chapter have been identified as other highway and public transport network users including:

- Non-motorised users;
- Active Travel users;
- Motorists and freight vehicles;
- Public transport; and
- Emergency services.

[24] National Highways 2020. Design Manual for Roads and Bridges. LA 104 Environmental assessment and monitoring. Published August 2020. Available at: https://www.standardsforhighways.co.uk/tses/attachments/0f6e0b6a-d08e-4673-8691-cab564d4a60a (accessed on: 24/07/2026).

21.9.1.42 The following are special interests for consideration when defining sensitive receptor geographic locations, as set out in the 2023 ISEP Guidelines[1]. This will inform the assessment of effect significance.

- People at home;
- People at work;
- Sensitive and/or vulnerable groups (including young age; older age; income; health status; social disadvantage; and access and geographic factors);
- Locations with concentrations of vulnerable users (e.g. hospitals, places of worship, schools);
- Retail areas;
- Recreational areas;
- Tourist attractions;
- Collision clusters and routes with road safety concerns; and
- Junctions and highway links at (or over) capacity.

21.9.1.43 It is noted that assessment of accessibility, active travel opportunities, community severance and social inclusion will be covered elsewhere in the ES.

21.9.1.44 Each receptor will be assigned a sensitivity value for the assessment, informed by DMRB LA 104[24] and ISEP[1] guidelines.

Table 21-8: Value of Receptor

Value (Sensitivity) of Receptor	Relevance to the Assessment
Very High	Very high importance and rarity, international scale and very limited potential for substitution.
High	High importance and rarity, national scale, and limited potential for substitution.
Medium	Medium or high importance and rarity, regional scale, limited potential for substitution.
Low	Low or medium importance and rarity, local scale.
Negligible	Very low importance and rarity, local scale.

Significance

21.9.1.45 The effects will be considered in relation to the sensitivity of the receptors.

21.9.1.46 The significance of the effect will be assigned a category as set out below. This will be based on the modelling results, stakeholder consultation and professional judgement of transport planners.

Table 21-9: Level of Effect

Level of Effect		Criteria
Significant	Substantial	Only adverse effects are assigned this level of significance as they represent key factors in the decision-making process. These effects are generally, but not exclusively, associated with sites and features of national or regional importance. A change at a county scale site or feature may also enter this category.
	Major	These effects are likely to be important considerations at a district scale but, if adverse, are potential concerns to the project and may become key factors in the decision-making process.
	Moderate	These effects, if adverse, while important at a local scale, are not likely to be key decision-making issues. Nevertheless, the cumulative effects of such issues may lead to an increase in the overall effects on a particular area or on a particular resource.
Not significant	Minor	These effects may be raised as local issues but are unlikely to be of importance in the decision-making process. Nevertheless, they are of relevance in enhancing the subsequent design of the project and consideration of mitigation or compensation measures.
	Negligible or No Effect	Either no effect or effect which is beneath the level of perception, with normal bounds of variation or within the margin of forecasting error. Such effects should not be considered by the decision-maker.

21.9.1.47 The determination of significant effect for traffic and transport will be informed by the significance matrix set out in Design Manual for Roads and Bridges LA 104[24].

Table 21-10: Significance Matrix

Level of Effect		Magnitude of Effect				
		No change	Negligible	Minor	Moderate	Substantial
	Substantial	Not significant	Not significant	Significant	Significant	Significant

Level of Effect		Magnitude of Effect				
		No change	Negligible	Minor	Moderate	Substantial
Environmental Value (Sensitivity)	Major	Not significant	Not significant	Significant	Significant	Significant
	Moderate	Not significant	Not significant	Not significant	Significant	Significant
	Minor	Not significant	Not significant	Not significant	Not significant	Significant
	Negligible or No Effect	Not significant	Not significant	Not significant	Not significant	Not significant

21.9.2 Cumulative Effects

21.9.2.1 As outlined in the ISEP[1] guidelines, transport and movement assessments are inherently cumulative, as the traffic data used to inform such assessments should include data from other relevant developments.

21.9.2.2 Transport modelling forecasts will consider committed developments, allocated developments and major infrastructure related projects. Consideration will be given to wider cumulative transport interactions such as HS2.

21.9.2.3 As such, no dedicated assessment of cumulative effects will be undertaken within the traffic and transport chapter.

21.9.3 In-Combination Effects

21.9.3.1 There is no standard approach to the assessment of in-combination effects. A receptor-based approach to this will be undertaken at an appropriate geographical level.

21.9.3.2 This will first comprise the identification of relevant receptor groups, based on whether a sensitive receptor is exposed to more than one type of residual effect during the phases of the scheme. The second stage will assess where likely in-combination effects have been identified. Further detail on this is provided in **Chapter 24**.

21.9.4 Limitations and Assumptions

21.9.4.1 The following assumptions and limitations are acknowledged with regards to the preparation of this chapter:

- The ES chapter will be informed by the TA and reflect assumptions included in the TA.
- Transport and surface access effects are anticipated to vary through the construction programme. This scoping report and the future ES will be limited by the information available and will provide a forecast of likely peak construction traffic informed by the information available. A reasonable worst case will inform the assessment.

21.10 Proposed Approach to Mitigation

21.10.1.1. This Section provides details on likely mitigation measures. This is informed by the mitigation hierarchy approach to avoid, reduce, mitigate and compensate, as set out in draft HENPS[4].

21.10.1.2 The EIA Regulations require:

"A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment".

- **Primary Mitigation –** Also known as embedded mitigation, primary mitigation refers to any modifications made to the location or design of the development during the pre-application phase that are an inherent part of the project, and do not require additional action to be taken.
- **Secondary Mitigation –** Secondary mitigation includes actions that will require further activity in order to achieve the anticipated outcome. These may be imposed as part of the planning consent.
- **Tertiary Mitigation –** Tertiary mitigation includes actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental effects.

21.10.1.3 Both the construction and operational phases will be assessed with the primary and tertiary mitigation applied. It may be appropriate to consider secondary mitigations where likely significant effects are identified. If likely significant effects are identified and secondary mitigation is proposed, a residual assessment will be undertaken that reflects the mitigation.

Primary Mitigation

Construction Phase

21.10.1.4 Primary mitigation for the construction phase will be considered as part of the CTMP.

Operational Phase

21.10.1.5 As part of the primary mitigation that will contribute to beneficial impacts, the Proposed Development comprises interchange facilities to integrate rail, bus,

coach and passenger transfer facilities, enabling access to the expanded airport and supporting passenger movement between terminals and surface transport networks. The Proposed Development also comprises replacement roads (A4, A3044) that will serve as primary mitigations.

21.10.1.6 Primary mitigation will also include the holding areas and vehicle call up areas to reduce the number of vehicle miles, and reducing the rate of provision of car parking for staff as the airport expands. These mitigations will be referred to in the Operational Traffic Management Plan (OTMP) and Staff Travel Plan respectively, both detailed below as tertiary mitigations.

Secondary Mitigation

Construction Phase

21.10.1.7 It is anticipated that the implementation of the CTMP will inherently mitigate most effects designated as significant within the construction phase. If secondary mitigation is required to address likely significant effects identified, these will be set out within the ES.

Operational Phase

21.10.1.8 It is anticipated that the implementation of the SAS will mean most effects designated as significant within the traffic and transport chapter will be inherently mitigated through project design to reduce the impacts on the wider surface access network.

21.10.1.9 Secondary mitigation may be required to address likely significant effects identified. This may include improvements to local highway junctions or to bus infrastructure.

Tertiary Mitigation

Construction Phase

21.10.1.10 An outline Construction Traffic Management Plan (CTMP) will be developed in accordance with the draft ANPS to manage construction traffic, workforce travel and the movement of plant and materials. The CTMP will be designed to avoid, reduce and mitigate impacts on the SRN, local highway network and other transport users where possible and to manage and minimise the disruption to airport operations, local communities and freight movements. The CTMP will include mechanisms for contingency if targets are not met.

21.10.1.11 Key mitigation measures within the CTMP are expected to include:

- Routing HGV traffic via suitable strategic and local roads and avoiding sensitive receptors where practicable.
- Scheduling construction vehicle movements outside peak periods, where feasible, to reduce congestion.

- Consolidating deliveries onto the least number of vehicles and implementing efficient logistics arrangements, such as HGV holding areas to hold vehicles away from sensitive areas until deliveries are required.
- Utilising rail freight and other sustainable modes for the transport of materials and equipment where appropriate and feasible. Any proposals for rail use will be developed in collaboration with Network Rail and Great British Railways.
- Encouraging construction workforce travel by public transport, active travel and car sharing to reduce vehicle trips, through possible mechanisms such as a workforce travel plan.
- Implementing appropriate temporary traffic management to maintain safe conditions for vehicles, pedestrians and other road users in areas affected by the Proposed Development.

21.10.1.12 Construction-related transport impacts will be monitored throughout the construction period, with mechanisms in place to implement corrective actions where necessary.

21.10.1.13 The potential for increased demand on public transport services arising from construction workforce travel will be considered. Where required, measures such as additional service capacity will be explored with transport operators to mitigate crowding effects.

21.10.1.14 Mitigation measures and any associated highway interventions will be developed in consultation with National Highways, local highway authorities and other relevant stakeholders to maintain the safe and efficient operation of the transport network and minimise construction-related disruption.

Operational Phase

21.10.1.15 The SAS will be prepared in parallel to the EIA and TA, with due regard to the ANPS and draft HENPS, and submitted as part of the Development Consent Order (DCO) application. The draft HENPS will become the primary policy once adopted. The role of the SAS is to seek to minimise the effects of movements to and from the airport through embedded design mitigation and a comprehensive movement management strategy.

21.10.1.16 The SAS will set out initiatives for managing surface access movements and addressing significant negative effects on the highway or public transport network. This will include a monitoring plan for the assessment of changes to the baseline as the strategy is implemented.

21.10.1.17 The SAS will include measures that relate to the public transport mode share targets set out in the draft HENPS, of at least 50% at 116 million annual terminal passenger capacity and 55% at 130 million annual terminal passenger capacity. These targets are intended to incentivise a shift towards sustainable travel modes, thereby helping to mitigate highway, traffic and environmental impacts associated with increases in passenger demand.

21.10.1.18 A Staff Travel Plan will be developed to target a reduction in single occupancy car travel. This will set out measures to achieve a defined target reduction, and an accompanying monitoring strategy.

21.10.1.19 An operational traffic management plan (OTMP) will be prepared to inform operational traffic movements, with an outline OTMP (OTMP) anticipated for submission as part of the DCO.

21.10.1.20 Proposed mitigation measures and initiatives for consideration as part of the Proposed Development are as follows:

- Encouraging staff to reduce reliance on private car through measures to support use of active travel and public transport (Staff Travel Plan)
- Encouraging passengers to reduce reliance on private car through measures to support use of public transport (SAS)
- Reducing travel by private car through a series of incentives and reducing the rate of provision of car parking for staff as the airport expands (Staff Travel Plan)
- Use of freight consolidation to allow for consolidation of individual vehicles, reduce vehicle trips and reduce congestion (OTMP)
- Designated HGV routes to be determined through consultation with relevant highway authorities (OTMP)

21.11 Summary

21.11.1.1 **Table 21-11** below provides a summary of the elements scoped in and out of the traffic and transport assessment.

Table 21-11: Elements Scoped In/Out of Traffic and Transport Assessment

Discipline	Scoped In Elements	Scoped Out Elements
Transport and transport	Severance of communities Road vehicle driver and passenger delay Non-motorised user delay Non-motorised amenity (to include fear and intimidation on and by road users) Public transport amenity Road user and pedestrian safety Hazardous / large loads	Air travel Surface access impacts at other airports Temporary impacts lasting less than 4 weeks

Environmental Impact Assessment Scoping Report

Chapter 22

Water Environment

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Appendix 22.1 Groundwater Modelling Method Statement

22 Water Environment

22.1 Introduction

22.1.1.1 This Chapter of the Environmental Impact Assessment (EIA) Scoping Report has been prepared jointly by APEM and Stantec and sets out the scope of assessment for the likely significant effects on the Water Environment by the Proposed Development. APEM has undertaken the assessment of elements relating to surface water (including water quality) and hydromorphology, and Stantec has undertaken the assessment of elements relating to groundwater, flood risk, and water resources.

22.1.1.2 The scope of the Water Environment Chapter will cover effects to surface water features, including watercourses, canals, lakes, reservoirs and groundwater features from all aspects of the Proposed Development. For the purposes of this Chapter, Water Environment receptors are assessed within the following sub-disciplines:

- Surface Water;
- Hydromorphology;
- Groundwater;
- Flood Risk; and
- Water Resources.

22.1.1.3 The scope of the effects of mobilisation of potential contaminants on water quality is considered in **Chapter 16**: **Ground Conditions,** and **Chapter 6**: **Biodiversity** considers effects on water-dependent designated sites and ecological features.

22.1.1.4 This Chapter should also be read in conjunction with **Chapter 9**: **Climate Change**, which considers the impact of future climate projections on the water environment and **Chapter 19**: **Major Accidents and Disasters**, which considers major accidents and disasters relating to the water environment and the effects that major accidents and disasters can have on the water environment.

22.2 Policy, Legislation and Guidance

22.2.1.1 This Section identifies the relevant policies, legislation and guidance that have informed the scope of this Chapter and, where relevant, the study area of the assessment presented in **Section 22.4**. Further information on the policies relevant to the EIA and their status is set out in **Section 1.9**, which should be read in conjunction with this Chapter. **Table 22-1** and **Table 22-2** outline the policy and legislation relevant to the Water Environment assessment.

Table 22-1: Policy relevant to the Water Environment Assessment

Relevant Policy	Relevance to Assessment
Policy – National	
Airports National Policy Statement[1] (ANPS)	The ANPS provides the policy framework for the Government's approach to securing additional airport capacity at Heathrow Airport and the primary basis for decision making on any development consent application. The policy sets out the requirements of the EIA, including the assessment of effects on the water environment. The ANPS requires compliance with relevant flood risk, water and climate change legislation and guidance, including the National Planning Policy Framework (NPPF), Flood and Water Management Act and Water Framework Directive (WFD). Where flood risk is a factor, applications must be supported by a Flood Risk Assessment (FRA) and, where required, the Sequential and Exception Tests. Applicants must assess all sources of flood risk to and from the Proposed Development, account for climate change, and demonstrate how risks will be managed and mitigated throughout the lifetime of the development. In relation to water quality and resources, the ANPS requires assessment of baseline conditions and potential impacts on water quality, water resources, hydromorphology, WFD water bodies, protected areas and Source Protection Zones (SPZs), including cumulative effects. Effects on existing water supply, wastewater and sewerage infrastructure should also be assessed in consultation with the relevant undertakers, alongside any future infrastructure requirements arising from the Proposed Development.

[1] Department for Transport, Airports National Policy Statement, June 2018. Available at: https://www.gov.uk/government/publications/airports-national-policy-statement

Relevant Policy	Relevance to Assessment
Draft Heathrow Expansion National Policy Statement (HENPS)[2]	The Draft HENPS has been prepared specifically to support the expansion proposals at Heathrow and reflects the Government's emerging policy position relevant to the Proposed Development. The Draft HENPS carries forward the core requirements of the ANPS, including assessment of flood risk, climate change, water quality, water resources, WFD objectives and water infrastructure. It also provides additional detail reflecting Heathrow Airport's role as critical national infrastructure, including requirements relating to operational resilience during extreme flood events. Accordingly, while the ANPS provides important policy context, the Draft HENPS is of greater relevance to the assessment of the Proposed Development and has been given primary regard where appropriate. The Draft HENPS is intended to supersede and replace the ANPS upon designation.
National Networks National Policy Statement (NNNPS)[3]	The NNNPS sets out the need for government policies to deliver the development of Nationally Significant Infrastructure Projects (NSIPs) on the national road and rail networks in England. The NNNPS does not cover airports, however, is relevant for road and rail infrastructure elements of the Proposed Development. The policy sets out requirements relating to environmental assessment, including consideration of climate change and cumulative effects. In relation to 'flood risk' and 'water quality and resources', the requirements are broadly comparable to those contained within the ANPS. Additionally, it considers the impact of other existing and committed developments within an appropriate geographical area and the additional impact of their own development. The policy also sets out how applicants and the Secretary of State

[2] Department for Transport, Draft Heathrow Expansion National Policy Statement, June 2026. Available at: https://www.gov.uk/government/publications/draft-heathrow-expansion-national-policy-statement
[3] Department for Transport, National Networks National Policy Statement, March 2024 (updated May 2024). Available at: https://www.gov.uk/government/publications/national-networks-national-policy-statement

Relevant Policy	Relevance to Assessment
	should take the effects of climate change into consideration throughout the development stages and consider the infrastructure applications.
National Planning Policy Framework (NPPF)[4]	National policy in relation to flood risk is contained within the NPPF, most recently updated in 2026, issued by the Ministry of Housing, Communities and Local Government. With reference to Chapter 5 "Meeting the challenge of climate change (policies CC1 to CC3) and Chapter 18 'Managing flood risk and coastal change'. The associated Planning Practice Guidance (PPG) (with reference to 'Flood Risk and Coastal Change') was last updated in September 2025. This policy sets out that inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at the highest risk through use of processes such as the Sequential Test and Exception Test. A key requirement of the NPPF is that the development should be made safe without causing a detrimental increase in flood risk elsewhere.
Environmental Improvement Plan 2025[5]	The Environmental Improvement Plan is a framework for improving England's natural environment up to 2043. It aims to do this by restoring nature, improving environmental quality and building a circular economy. Ten goals are set out in the plan, including commitments across priority areas, such as clean air and water, thriving wildlife and resilient landscapes.
Policy – Local	

[4] Ministry of Housing, Communities & Local Government, National Planning Policy Framework, August 2026. Available at: https://www.gov.uk/guidance/national-planning-policy-framework

[5] Environmental Improvement Plan 2025. Published December 2025. Available at: Environmental Improvement Plan 2025 - GOV.UK ((accessed on 04/08/2026)

Relevant Policy	Relevance to Assessment
London Environment Strategy 2018[6]	Within the London Environment Strategy (Chapter 8: Adapting to Climate Change), policies include: • Policy 8.2.1 - Reduce the risk and manage the impacts of surface water, sewer, fluvial, reservoir and groundwater flooding in London. • Policy 8.2.3 Increase the amount of sustainable drainage, prioritising greener systems across London in new development, and also retrofit solutions.
The London Plan 2021[7]	Policy SI 12 Flood risk management of The London Plan sets out 7 key requirements for proposed developments. It requires flood risk from all sources to be managed sustainably through collaboration between planning authorities, the EA, developers and other stakeholders. Development plans should use flood risk assessments and management strategies to identify and address local and cross-boundary flood risks. New development must minimise and mitigate flood risk, support the Thames Estuary 2100 Plan, maintain operational resilience during flooding, and allow for rapid recovery after flood events. Development near watercourses and flood defences should protect and facilitate future maintenance of flood infrastructure, while incorporating natural flood management measures that provide environmental and community benefits. Policy SI 13 Sustainable Drainage is also relevant to flood risk and has 4 key requirements for proposed developments. These are summarised as: • To identify and reduce surface water management risks, • To achieve greenfield run-off rates from developments, • To reduce impermeable surfacing and improve water quality, biodiversity, amenity and recreation and urban greening through drainage design.

[6] The London Plan 2021. Published March 2021. Available at: The London Plan 2021 - Table of Contents | London City Hall (accessed on 04/08/2026)
[7] London Environment Strategy. Published May 2018. Available at: London Environment Strategy | London City Hall (accessed on 04/08/2026)

Relevant Policy	Relevance to Assessment
The Draft London Plan[8]	The Draft London Plan establishes strategic policies relating to flood risk, drainage, water quality, blue infrastructure, biodiversity and climate change resilience that may influence the design and assessment of proposed developments. Policies relevant to the assessment set out within the plan include: • GHR5 Flood Risk and Drainage • GHR9 Clean and Healthy Waterway • GHR7 Green Infrastructure and Urban Greening Factor • GHR6 Trees, Biodiversity and Geodiversity • MBUL4 Utilities
Runnymede 2030 Local Plan[9]	The Runnymede 2030 Local Plan provides the statutory planning framework for development within the borough and includes policies relating to flood risk management, water quality, watercourses, sustainable drainage, biodiversity, green and blue infrastructure, environmental protection and climate change resilience. Applicable policies include but are not limited to: • EE13 Managing Flood Risk • EE12 Blue Infrastructure • EE2 Environmental Protection • EE9 Biodiversity, Geodiversity and Nature Conservation • SD7 Sustainable Design

[8] The Draft London Plan. Published July 2026. Available at: Draft London Plan | London City Hall
[9] Runnymede 2030 Local Plan, Runnymede Borough Council. Published July 2020. Available at: Runnymede 2030 Local Plan – Runnymede Borough Council

Relevant Policy	Relevance to Assessment
Royal Borough of Windsor & Maidenhead Local Plan 2013-203310	Relevant as it contains policies relating to flood risk management, watercourses, sustainable drainage, blue and green infrastructure, biodiversity and climate resilience. In particular, Policy NR1 (Managing Flood Risk and Waterways) addresses flood risk, climate change and drainage; Policy QP2 (Green and Blue Infrastructure) promotes the protection and enhancement of waterways, water features and SuDS; and Policy NR2 (Nature Conservation and Biodiversity) supports the protection and enhancement of aquatic habitats, water bodies and ecological networks. Together, these policies provide the local policy framework for assessing potential effects of proposed developments on the water environment and identifying appropriate mitigation and enhancement measures
Richmond Upon Thames Local Plan 'The best for our borough' (2024 to 2039)[11]	This is relevant to the assessment as it sets out local planning policies relating to flood risk, sustainable drainage, water resources, water quality, green and blue infrastructure, biodiversity and river corridors. These policies provide the local policy framework for assessing the potential effects on the water environment and for identifying appropriate mitigation and enhancement measures: • Policy 8 Flood Risk and Sustainable Drainage • Policy 9 Water Resources and Infrastructure • Policy 34 Green and Blue Infrastructure • Policy 39 Biodiversity and Geodiversity • Policy 40 Rivers and River Corridors

[10] Royal Borough of Windsor & Maidenhead Local Plan 2013-2033, Royal Borough of Windsor & Maidenhead. Available at: Adopted local plan | Royal Borough of Windsor and Maidenhead

[11] Richmond Upon Thames Local Plan 'The best for our borough' (2024 to 2039), London Borough of Richmond Upon Thames, published October 2025. Available at: Adopted Local Plan - London Borough of Richmond upon Thames

Relevant Policy	Relevance to Assessment
Draft Local Plan for Buckinghamshire 2024-2045[12]	This is relevant to the assessment as it sets out strategic and development management policies relating to water quality, flood risk, sustainable drainage, climate resilience, water infrastructure, watercourses, groundwater protection and biodiversity. These policies provide the local planning framework for assessing potential effects of proposed development on the water environment and identifying appropriate mitigation and enhancement measures. These policies include: • SP13 Natural Environment and Climate Resilience • NE1 Water Quality • CC1 Flood Risk • CC2 Sustainable Drainage Systems (SuDS) • CC3 Water Efficiency Standards • IN3 Water Infrastructure • IN4 Safeguarded Strategic Water Services Infrastructure
Buckinghamshire Minerals and Waste Local Plan 2016-2036 (Adopted July 2019)	This is relevant to the assessment as it sets out local land use planning policies in relation to minerals and waste development, including for sewage treatment works. The plan is generally supportive of the need to provide additional sewage treatment capacity to serve planned development and includes policies which address potential impacts on the water environment and flood risk, including: • Policy 15: Sewage Treatment Works • Policy 16: Managing Impacts on Amenity and Natural Resources • Policy 18: Natural Environment • Policy 23: Design and Climate Change

[12] Draft Local Plan for Buckinghamshire 2024-2045 Regulation 19 Public Version. Available at: Draft Local Plan for Buckinghamshire 2045 (Regulation 19 consultation) | Buckinghamshire Council

Relevant Policy	Relevance to Assessment
Draft Hounslow Local Plan 2020-2041 (Regulation 19)[13]	This provides the local planning framework for the London Borough of Hounslow and is relevant through Policy EQ3 (Flood Risk and Surface Water Management), which addresses flood risk, climate change, flood resilience and sustainable drainage; Policy GB5 (Blue Ribbon Network), which promotes the protection and enhancement of rivers, canals and waterbodies, delivery of Water Framework Directive objectives, water quality improvements and watercourse buffer zones; and Policy EC3 (Heathrow Airport), which seeks to manage environmental effects associated with Heathrow Airport, including potential interactions with flood risk and the water environment. Together, these policies provide the local policy framework for assessing potential effects of the Proposed Development on the water environment and identifying appropriate mitigation and enhancement measures
London Borough of Hillingdon Local Plan Part 1 (Adopted November 2012)[14] Part 2 (Adopted January 2020)[15]	Local Plan Part 1 sets out the overall and broad locations of growth up to 2026. The report contains a section on flood risk management and surface and foul water drainage. Policy EM6 contains the Flood Risk Management Policy, which sets out that the requirement for development to be directed away from Flood Zones 2 and 3 and in accordance with the principles of the National Planning Policy Framework (NPPF). Local Plan Part 2 comprises Development Management Policies, Site Allocations and Designations and the Policies Map. Policy DMEI 9 covers the Management of Flood Risk and DMEI 10 covers Water Management, Efficiency and Quality.

[13] Draft Hounslow Local Plan 2020-2041, Proposed Submission Version (Regulation 19)[13], Published July 2024. Available at: Local Plan Review – Regulation 19 Consultation on the Hounslow Local Plan 2020-2041 | Local Plan review | London Borough of Hounslow

[14] London Borough of Hillingdon Local Plan Part 1 - Strategic Policies. Published November 2012. Available at: https://pre.hillingdon.gov.uk/planning-policy/local-plan-review (accessed on 05/08/2026)

[15] London Borough of Hillingdon Local Plan Part 2 – Development Management Policies. Published January 2020. Available at: https://pre.hillingdon.gov.uk/planning-policy/local-plan-review (accessed on 05/08/2026)

Relevant Policy	Relevance to Assessment
London Borough of Hounslow Local Plan Volume 1[16]	The Local Plan has been prepared to guide development, investment and improvements in the borough and to assess future planning applications. Policy EQ3 found within Volume 1 of the Local Plan covers Flood Risk and Surface Water Management.
Spelthorne Local Plan 2024-2039/40 (March 2026)[17]	The Local Plan includes spatial policy SP7 which covers Heathrow Airport, setting out the requirements needed for the council to support a future expansion at Heathrow Airport. Policy E3 covers Managing Flood Risk.

Table 22-2: Legislation Relevant to the Water Environment Assessment

Relevant Legislation	Relevance to Assessment
Legislation - National	
The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (SI 2017/407)	The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (WER) transpose the requirements of the Directive 2000/60/EC (WFD) into domestic legislation. The Regulations establish a framework for the protection and enhancement of the water environment, requiring consideration of impacts on rivers, estuaries, lakes, groundwater and coastal water bodies. Environmental objectives for individual water bodies are set out within River Basin Management Plans (RBMPs), including objectives to prevent deterioration in status and to achieve Good status where feasible. Where it is not possible to achieve Good status, alternative objectives may be established in accordance

[16] London Borough of Hounslow Local Plan Volume 1. Published September 2015. Available at: https://www.hounslow.gov.uk/downloads/file/13227/hounslow-local-plan-part-1-direct (accessed on 05/08/2026)
[17] Spelthorne Local Plan 2024-2039/40. Published March 2026. Available at: https://www.spelthorne.gov.uk/sites/default/files/2026-03/Spelthorne%20Local%20Plan%202024-2039-40%20%28March%202026%29_0.pdf (accessed on 05/08/2026)

Relevant Legislation	Relevance to Assessment
	with the Regulations. The current status and objectives for each water body are reported in the relevant RBMP and form a key consideration in WFD assessments.
Environmental Targets (Water) (England) Regulations (2023)	The Environmental Targets (Water) (England) Regulations 2023 (enacted under the Environment Act 2021) establish legally binding targets for the improvement of the water environment, including targets relating to nutrient pollution, water demand and wider freshwater ecology, which supports the delivery of RBMP objectives.
The Groundwater (Water Framework Directive) (England) Direction (2016)[18]	The Groundwater (WFD) (England) Direction (2016) implements the Groundwater Directive (2006/118/EC) in England and sets out instructions to the Environment Agency (EA) to protect groundwater.
Flood and Water Management Act 2010 [19]	The Flood and Water Management Act was published in 2010 and sets out the legislative framework for the management of Flood Risk in England and Wales. The act defines the responsibilities of the EA, Lead Local Flood Authorities (LLFAs), and water companies. It focuses on an approach of managing all sources of flooding, including rivers, groundwater, coastal and surface water. The act also includes provisions relating to sustainable drainage and the management of flood risk at a local scale.
Environment Act 1995	The Environment Act 1995 established the EA and its responsibilities for water resources, flood risk management, fisheries and environmental protection.

[18] The Groundwater (Water Framework Directive) (England) Direction 2016. Published July 2016. Available at: https://assets.publishing.service.gov.uk/media/5a800055ed915d74e622be43/groundwater-ea-direction.pdf (accessed 28/09/2026)
[19] Flood and Water Management Act 2010. Published April 2010 (Updated December 2025). Available at: https://www.legislation.gov.uk/ukpga/2010/29/contents

Relevant Legislation	Relevance to Assessment
Environment Act 2021	The Environment Act 2021 establishes a framework for environmental protection and improvement, including the introduction of legally binding environmental targets. The Act includes provisions relating to water quality, wastewater management and the wider water environment, and supports long-term protection and enhancement of water resources and aquatic ecosystems.
Environmental Protection Act 1990	The Environmental Protection Act 1990 provides a framework for the control and prevention of pollution and environmental harm – including activities that may harm the water environment.
Land Drainage Act 1991	Provides the legislative framework for the management and maintenance of ordinary watercourses and land drainage systems. The Act defines the legal responsibilities of riparian landowners to maintain watercourse flows. Furthermore, it provides powers for authorities to undertake or require works where necessary via remedial works or to issue formal Land Drainage Consents.
Water Resources Act 1991	The Water Resources Act 1991 states that it is an offence to knowingly pollute controlled waters with poisonous, noxious or polluting matter, or solid waste matter.
Water Act 2003	The Water Resources Act 1991 was amended by the Water Act 2003, which introduced further regulatory controls relating to water abstraction, impoundment and the protection of water resources.
The Environmental Permitting (England and Wales) Regulations 2016 (SI 2016/1154)	The Environmental Permitting (England and Wales) Regulations 2016 provide the framework for regulating discharges and other activities that may affect controlled waters, replacing provisions contained within earlier legislation.
Water Industry Act 1991	The Water Industry Act 1991 establishes the statutory framework for the provision and regulation of water supply and sewerage services. The Act outlines the core duties and

Relevant Legislation	Relevance to Assessment
	powers of water and sewerage undertakers, including responsibilities relating to the protection of public water and sewerage infrastructure.
Water Act 2014	The Water Act 2014 introduced reforms to the water industry aimed at improving the long-term resilience and sustainable management of water resources and water and sewerage services. The Act includes measures relating to water resource management, the resilience of water supplies, and the operation and regulation of the water sector.
The Control of Pollution (Applications, Appeals and Registers) Regulations 1996 (Statutory Instrument (SI) 1996/2971)	The Control of Pollution Regulations 1996 sets out the procedures for applications and appeals relating to consents for activities that may affect water quality, including discharges to controlled waters.
The Anti-Pollution Works Regulations 1999 (SI 1999/1006)	The Anti-Pollution Works Regulations 1999 supplement the anti-pollution provisions contained in the Water Resources Act 1991, allowing the EA to serve a notice requiring action to be taken where there is potential or actual pollution affecting controlled waters.
The Control of Pollution (Oil Storage) (England) Regulations 2001 (SI 2001/ 2954)	The Control of Pollution (Oil Storage) (England) Regulations 2001 establishes requirements for oil storage to reduce the risk of leaks and spillages causing pollution of surface waters, groundwater and land.
The Environmental Damage (Prevention and Remediation) Regulations 2015 (SI 2015/810)	The Environmental Damage (Prevention and Remediation) Regulations 2015 were introduced in July 2015 and establish legal obligations to prevent and remediate environmental damage, implementing the EU Environmental Liability Directive in England.

Relevant Legislation	Relevance to Assessment
Urban Waste Water Treatment (England and Wales) Regulations 1994	The Urban Waste Water Treatment (England and Wales) Regulations 1994 regulate the collection, treatment, and discharge of urban wastewater to protect the environment from adverse effects of sewage disposal.
Climate Change Act 2008	The Climate Change Act 2008 sets out the UK's framework for reducing greenhouse gas emissions and adapting to the effects of climate change. The Act provides the statutory basis for evaluating the long-term impacts of climate change on flood risk, water resources, and the wider water environment. It mandates a five-yearly cycle of UK Climate Change Risk Assessments (CCRA) and grants Adaptation Reporting Powers (ARP) that compel water undertakers and sectoral regulators to systematically report on infrastructure resilience, drought risks, and threats to the water environment.
The Eels (England and Wales) Regulations 2009 (SI 2009/3344)	The Eels (England and Wales) Regulations 2009 implement measures to protect and restore eel populations, including requirements to maintain eel migration routes and ensure passage of eels through structures such as weirs, sluices, and pumping stations.
Salmon and Freshwater Fisheries Act 1975	The Salmon and Freshwater Fisheries Act 1975 provides protection for salmon, trout and other freshwater fish and their habitats. The Act includes provisions relating to fish passage and the protection of inland waters from activities that could adversely affect fish populations.
The Buildings Regulations 2010 (SI 2010/2214) Schedule 1 Part H	Schedule 1 Part H of the Building Regulations 2010 sets out requirements for the design and construction of drainage and waste disposal systems associated with buildings. The Regulations include provisions relating to the collection and disposal of foul water and rainwater, including hierarchies for disposal destinations (such as the use of Sustainable

Relevant Legislation	Relevance to Assessment
	Drainage Systems (SuDS), while ensuring the prevention of environmental pollution and the protection of existing sewer infrastructure.
Reservoirs Act 1975	UK law that was enacted to strengthen public safety by imposing strict controls on the construction, operation, inspection, and maintenance of large, raised reservoirs in the UK.

22.2.2 Guidance

22.2.2.1 In addition to the legislation and national and local planning policies presented above, the assessment will be undertaken in accordance with and with reference to appropriate professional standards and guidance.

Table 22-3: Guidance Relevant to the Water Environment Assessment

Relevant Guidance	Relevance to Assessment
Guidance - National	
Design Manual for Roads and Bridges (DMRB): LA 104 Environmental Assessment and Monitoring[20] LA 113 Road Drainage and the Water Environment[21]	Guidance for linear infrastructure projects that provides an appropriately robust assessment framework in the absence of sector-specific guidance for Water Environment assessments and has been adapted where appropriate. DMRB LA 104 and LA 113 will also be used to inform the assessment of any highways components of the Proposed Development.

[20] DMRB LA 104 Environmental assessment and monitoring. Published July 2019. Updated August 2020. Available at: https://www.standardsforhighways.co.uk/search/0f6e0b6a-d08e-4673-8691-cab564d4a60a
[21] DMRB LA 113 - Road drainage and the water environment. Published August 2019. Updated March 2020. Available at: https://www.standardsforhighways.co.uk/search/d6388f5f-2694-4986-ac46-b17b62c21727

Relevant Guidance	Relevance to Assessment
Planning Practice Guidance (PPG) Flood Risk and Coastal Change[22]	Provides national guidance for considering flood risk within the planning process. It requires developments to assess, avoid, manage and mitigate flood risk from all sources, account for future climate change impacts and incorporate sustainable drainage and flood resilience measures where appropriate.
Environment Agency 'Flood Risk Assessments: Climate Change Allowances[23]'	Provides guidance on how climate change should be taken into account in Flood Risk Assessments. The guidance ensures that developers make allowances for climate change to help minimise vulnerability and provide resilience to flooding and coastal change.
BS8533:2017 Assessing and Managing Flood Risk in New Development – Code of Practice[24]	Provides comprehensive recommendations and guidance on assessing and managing flood risk for and from new developments, ensuring proper site evaluation, mitigation selection and compliance with UK planning frameworks.

[22] Ministry of Housing, Communities and Local Government and Department for Levelling Up, Housing and Communities. Flood Risk and Coastal Change. March 2014 (updated September 2025) Available at: https://www.gov.uk/guidance/flood-risk-and-coastal-change
[23] Environment Agency. Flood risk assessments: climate change allowances. February 2016 (updated May 2022). Available at: https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances
[24] Assessing and Managing Flood Risk in New Development – Code of Practice. Updated December 2017. Available at: https://www.thenbs.com/PublicationIndex/documents/details?Pub=BSI&DocId=320362

Relevant Guidance	Relevance to Assessment
Defra 'Non-Statutory Technical Standards for Sustainable Drainage Systems (SuDS)[25]'	Provides standards for surface water drainage systems for infrastructure and development on greenfield and brownfield sites. The standards seek to control runoff as close to source as possible and promote a SuDS management train to control flow rates, reduce runoff volume, provide water quality benefits and opportunities to encourage biodiversity and amenity.
CIRIA SuDS Manual (C753) [26]	Benchmark document for planning, designing, constructing, operating and maintaining sustainable drainage system.
ISEP Implementing the Mitigation Hierarchy from Concept to Construction (2024)	Mitigation proposals will be identified in line with the mitigation hierarchy and appropriate professional standards.
CIRIA C53227 and SP156 Control of Water Pollution from Construction Sites28	Guidance for consultants and contractors and good practice guidance for controlling pollution arising from construction activities.

[25] Department for Environment, Food & Rural Affairs. National standards for sustainable drainage systems. June 2025. Available at: https://www.gov.uk/government/publications/national-standards-for-sustainable-drainage-systems
[26] CIRIA Sustainable Drainage Systems (SuDS) Manual. Updated December 2015. Available at: https://www.ciria.org/CIRIA/CIRIA/Item_Detail.aspx?iProductCode=C753
[27] CIRIA. Control of water pollution from construction sites (C532). January 2001
[28] CIRIA. Control of Water Pollution from Construction Sites – Guide to Good Practice (SP156). Published May 2002.

Relevant Guidance	Relevance to Assessment
CIRIA C624 Development and Flood Risk – Guidance for the Construction Industry29	Provides guidance on flood risk considerations associated with development and construction activities.
CIRIA C648 Control of Water Pollution from Linear Construction Projects: Technical Guidance30	Technical guidance relating to pollution prevention and control during linear construction projects.
CIRIA C649 Control of Water Pollution from Linear Construction Projects: Site Guide31	Site-based guidance for implementing pollution prevention measures during linear construction projects.
CIRIA C750 Groundwater Control: Design and Practice32	Guidance on groundwater control associated with construction and development activities.
CIRIA C786 Culvert, Screen and Outfall Manual33	Guidance relating to the assessment, design and management of culverts, screens and outfalls.

[29] CIRIA. Development and flood risk – guidance for the construction industry (C624). October 2004
[30] CIRIA. Control of water pollution from linear construction projects – Technical guidance (C648). May 2006
[31] CIRIA. Control of water pollution from linear construction projects. Site guide (C649). May 2006.
[32] CIRIA. Groundwater control: design and practice (second edition) (C750). April 2016
[33] CIRIA. Culvert, screen and outfall manual (C786). January 2025

Relevant Guidance	Relevance to Assessment
CIRIA C811 Environmental Good Practice on Site Guide (Fifth Edition) 34	Provides environmental good practice measures for site activities during construction.
Nationally Significant Infrastructure Projects (NSIPs): Advice on the WFD[35]	The Planning Inspectorate's Advice on the Water Framework Directive provides guidance for NSIPs on demonstrating compliance with the 2017 Regulations. The guidance sets out the approach to assessing potential impacts on WFD water bodies, determining whether a project could cause a deterioration in status or compromise the achievement of water body objectives.
Guidance – Local	
London Borough of Hillingdon Sustainable Drainage Design and Evaluation Guide (2018) [36]	Outlines the standards for planning, designing and assessing SuDS locally, including the SuDS hierarchy, design integration and discharge standards.
Preliminary Flood Risk Assessment (PFRA) Surrey County Council 2017[37]	Surrey's PFRA provides high-level overview of flood risk from local flood sources. The document reviews data related to historic flood events and modelled flood risk extents. This identifies that flooding was recorded in Runnymede and Spelthorne in December 2022 due to river flooding, with 11 reported properties flooded.

[34] CIRIA. Environmental good practice on site guide (fifth edition) (C811). October 2023
[35] Planning Inspectorate, Nationally Significant Infrastructure Projects: Advice on the Water Framework Directive, September 2024 (updated July 2026)
[36] London Borough of Hillingdon Sustainable Drainage Design and Evaluation Guide. Updated 2018. Available at: https://www.sudsguide.uk/
[37] Preliminary Flood Risk Assessment (PFRA) Surrey County Council. Published 2011, Updated 2017. Available at: PFRA_Surrey_County_Council_2017.pdf (accessed on 04/08/2026)

Relevant Guidance	Relevance to Assessment
PFRA London Borough of Hillingdon 2017 addendum[38]	Hillingdon's PFRA addendum provides high-level overview of flood risk from local flood sources. The document reviews data related to historic flood events and modelled flood risk extents. At time of writing, the dataset for potential future floods was produced in 2011.
West London Strategic Flood Risk Assessment (SFRA) 2018[39]	Incorporating multiple West London Boroughs including Hillingdon and Hounslow which fall within the Flood Risk Study Area (FRSA). The SFRA includes interactive mapping and details relevant policy and guidance to LLFAs and developers.
Local Flood Risk Management Strategy for Slough[40]	The strategy identifies flood risks from surface water, groundwater, and watercourses in Slough. It outlines key objectives to reduce flood impact through mitigation, defining stakeholder responsibilities, setting emergency plans and planning and legislation requirements.
Spelthorne Borough Council Level 1 SFRA (July 2024)[41]	The Spelthorne SFRA provides a borough-wide evaluation of flood risk from all sources to inform strategic planning and site allocation. It should be used to guide planning decisions to manage and mitigate flooding, whilst ensuring safe and sustainable development.

[38] Preliminary Flood Risk Assessment (PFRA) London Borough of Hillingdon 2017 addendum. Published 2017. Available at: PFRA_London_Borough_of_Hillingdon_2017.pdf (accessed on 04/08/2026)
[39] West London Strategic Flood Risk Assessment. Published 2018, Updated 2024. Available at: https://westlondonsfra.london/ (accessed on 04/08/2026)
[40] Local Flood Risk Management Strategy for Slough. Published June 2013. Available at: Local flood risk management strategy for Slough – Slough Borough Council (accessed 17/08/2026)
[41] Spelthorne Borough Council Level 1 SFRA. Published July 2024 https://spelthornelocalplan.info/wp-content/uploads/2024/08/FLD154-Spelthorne_Level1_SFRA-Main-Report-2024-07.pdf (accessed on 05/08/2026)

22.3 Stakeholder Engagement

22.3.1.1 Stakeholder engagement will be undertaken throughout the progression of the Proposed Development and will ensure that relevant stakeholder views and requirements are appropriately considered.

22.3.1.2 Early engagement has been undertaken with the Environment Agency (EA), since July 2026, to identify baseline data requirements. Requests for baseline information have been submitted to the EA, and further consultation will be undertaken, as appropriate, as the EIA process progresses.

22.3.1.3 Ongoing engagement will help ensure that relevant regulatory requirements and stakeholder feedback are taken into account throughout the Proposed Development.

22.3.1.4 Lead local flood authorities will be consulted as part of the Flood Risk Assessment and Drainage Strategy that will be prepared to inform the planning application and ES. Additionally, LLFAs will also be consulted regarding ordinary watercourse consents / land drainage consents, river diversions and floodplain compensation.

22.3.1.5 Engagement with the Environment Agency has been undertaken to discuss hydraulic modelling around the River Colne hydraulic model, the Proposed Development's current proposals for river diversion, outline modelling for river diversions, principles of flood compensation and river works, temporary diversion works/phased implementation, maintenance access to the diverted watercourses and issues with potential diversion routes passing through historic/permitted landfill sites. Additionally, an introductory letter has been sent to the EA to discuss water quality monitoring proposals for agreement.

22.3.1.6 Further engagement is proposed surrounding the Water Environment ES approach, discussing the methodology for site specific updates to the River Colne model, climate change agreements if the design life is beyond 2125, further discussions around river diversions including routes, culverts, control structure operation, in-channel ecological mitigation requirements, maintenance access arrangements, security screens and more.

22.3.1.7 The approach to the FRA will also be discussed for post scheme hydraulic modelling and flood compensation. Additionally, discussions around temporary work scenarios, groundwater modelling, outlets into main rivers for the discharge from surface water networks and engagements regarding specific parameters for quality of discharged water - this would be applicable for the option of an onsite Wastewater Treatment Works (WwTW) with treated wastewater discharging to the River Colne. Discussions are also proposed around the water quality monitoring programme, including site selection, frequence and duration of monitoring and determinants to be analysed.

22.3.1.8 The Canal and River Trust may be consulted should any infrastructure interact with canals and other artificial water bodies under the management of the consultee and regarding floodplain compensation, however this is dependent on design and floodplain compensation locations.

22.3.1.9 The Colne Valley Regional Park Community Interest Company (CIC) May be consulted regarding river diversions, including routes, culverts and in-channel ecological mitigation requirements.

22.3.1.10 The Twin Rivers Management Board may be contacted subject to the current status of the organisation. This may include consultation on river diversions, including routes, culverts, control structure operation, in- channel ecological mitigation requirements, maintenance access arrangements, and security screens.

22.3.1.11 Discussions with Affinity Water will be undertaken to provide a brief on the scope of the Proposed Development, the development programme and when new water connections will be required. Applications will be made to Affinity Water (Section 41 of the Water Industry Act 1991) for the new water mains infrastructure required to serve the Proposed Development.

22.3.1.12 A pre-development enquiry has been raised with Thames Water. There will be further engagement regarding the capacity of existing Foul sewer system, and to confirm specific limits/parameters for quality of discharged water, specifically discharge of surface run-off from de-icing pads when in operation.

22.3.1.13 An initial introductory meeting was held with National Highways on the 31st July 2026. Further discussions with specific discipline leads will be undertaken where required in relation to the proposed highways drainage design.

22.3.1.14 Consultation with Natural England (NE) will be undertaken where potential changes to the groundwater regime could affect designated sites, wetlands or other groundwater-dependent ecological receptors.

22.4 Study Area

22.4.1 Study Area

22.4.1.1 This Section outlines the proposed study areas for the water environment. As the Proposed Development progresses through further design and consultation, the study area will continue to evolve to accommodate any refinements and changes.

22.4.1.2 The study areas for the water environment have been defined by the surface and ground water body extents as defined in the Thames River Basin Management Plan (RBMP)[42]. Definitions of these areas can be found in **Table 22-4** and are illustrated in **Figure 22.1**. A differentiation of surface water environments has been

[42] Environment Agency, Thames river basin management plan: October 2022. Available at: https://www.gov.uk/guidance/thames-river-basin-district-river-basin-management-plan-updated-2022

made between the Local Study Area (LSA) and Wider Study Area (WSA). The LSA is focused in the immediate area of the Proposed Development, typically including WFD water body catchments overlapped by the Scoping Boundary (plus a 500m buffer) where detailed baseline information will be collected. The WSA is important for understanding wider effects, as well as potential mitigation areas, and will undergo targeted monitoring associated with areas of development and mitigation, should this be required.

22.4.1.3 The Flood Risk Study Area (FRSA) will include the Scoping Boundary of the Proposed Development, plus a 500m buffer from the Proposed Development (see **Chapter 2: The Proposed Development**). The study area has been defined by considering the Zone of Influence (the distance the Proposed Development could cause effects based on professional judgement). Considering that the development will need to demonstrate no detriment in terms of flood risk, the Proposed Development Scoping boundary and a 500m buffer offset is considered an adequate distance to consider hydraulic connectivity and any impact on upstream and downstream levels, such that if levels were to rise minimally on Site, there would be negligible impact beyond 500m.

22.4.1.4 The Groundwater Study Area, (GWSA) has been defined based on the current Proposed Development and Scoping Boundary. It covers the boundary / extent of the Lower Thames Gravels WFD groundwater body.

Table 22-4: Definition of Proposed Study Areas

Study area	Definition
Surface Water	Local Study Areas: Predominantly the catchments of the WFD surface water bodies within the Colne and Crane operational catchments, but also including catchments of Maidenhead and Sunbury, Brent Rivers and Lakes and Wey and Trib operational catchments that are intersected by elements of the Proposed Development. Wider Study Areas: Incorporates the wider operational catchments of those listed above from their source to the confluence with the River Thames.
Groundwater	The full extent of the Proposed Development is underlain by the Lower Thames Gravel WFD groundwater body.
Flood Risk	The Scoping Boundary of the Proposed Development, plus a 500m buffer from the Site.

22.5 Sources of Data used in Scoping

22.5.1 Baseline Desk Study

22.5.1.1 Desk-based information and sources used to inform the assessment are summarised within **Table 22-5**.

Table 22-5: Data Sources used for Scoping

Source	Relevance to the Assessment
British Geological Survey (BGS) Geoindex website[43] BGS Geology Viewer (BETA)[44]	Provides 1:50,000 bedrock and superficial geology. Provides historical borehole records and scans.
Defra Hydrology Data Explorer website[45] Defra Climate Change Allowances[46] DEFRA Survey Data Download[47] Defra MAGIC website[48]	Access to open hydrology data including river flow and level, rainfall, groundwater levels and water quality data. Provides climate change allowances for river flow and rainfall. LiDAR topographic data. Provides details on aquifer designations, source protection zones, designated sites
EA Catchment Data Explorer website[49]	Provides information and downloadable data on the water environment and RBMPs.

[43] British Geological Survey. Geoindex (onshore). 2026. Available at: https://www.bgs.ac.uk/map-viewers/geoindex-onshore/
[44] British Geological Survey. BGS Geology Viewer. 2026. Available at: https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/
[45] Department for Environment, Food & Rural Affairs, Hydrology Data Explorer, 2026. Available at: https://environment.data.gov.uk/hydrology/landing
[46] Department for Environment, Food & Rural Affairs, Flood risk assessments: climate change allowances, 2022. Available at: https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances
[47] Department for Environment, Food & Rural Affairs, Data Services Platform: National LiDAR Programme, 2019 (updated 2023). Available at: https://environment.data.gov.uk/dataset/2e8d0733-4f43-48b4-9e51-631c25d1b0a9
[48] Multi-Agency Geographic Information for the Countryside (MAGIC) interactive mapping service (Defra, 2026), Available at Magic Map Application
[49] Environment Agency. Catchment Data Explorer. 2025. Available at: https://environment.data.gov.uk/catchment-planning

Source	Relevance to the Assessment
Thames river basin district river basin management plan: updated 2022[50] WFD Cycle 4 Classification Data for river water bodies catchments[51], rivers, canals and surface water transfer water bodies[52], transitional and costal water bodies[53], lake water bodies[54], groundwater water bodies[55], river basin districts[56], surface water operational catchments[57] and surface water management catchments[58].	Documents, data and maps that make up the Thames river basin district RBMP. Provides WFD classification data for the most recent Cycle 4 (2025) data.
EA Water Quality Explorer[59]	Access to the EA's water quality data collected from a range of sampling points, including rivers, lakes, ponds, canals, groundwater and costal and estuarine waters.
EA Online Interactive Maps: Flood map for planning; [60]	Provides flood risk information for a range of sources and risk levels across England.

[50] Environment Agency. Thames river basin district river basin management plan: updated 2022. 2022. Available at: https://www.gov.uk/guidance/thames-river-basin-district-river-basin-management-plan-updated-2022
[51] Environment Agency. WFD River Water Body Catchments Cycle 4 Classification 2025 (Full Resolution), 2026. Available at: https://ckan.publishing.service.gov.uk/dataset/wfd-river-water-body-catchments-cycle-4-classification-2025-full-resolution
[52] Environment Agency. WFD River, Canal, and SWT Water Bodies Cycle 4 Classification 2025 (Full Resolution), 2026. Available at: https://ckan.publishing.service.gov.uk/dataset/wfd-river-canal-and-swt-water-bodies-cycle-4-classification-2025-full-resolution
[53] Environment Agency. WFD Transitional and Coastal Water Bodies Cycle 4 Classification 2025 (Full Resolution), 2026. https://ckan.publishing.service.gov.uk/dataset/wfd-transitional-and-coastal-water-bodies-cycle-4-classification-2025-full-resolution
[54] Environment Agency. WFD Lake Water Bodies Cycle 4 Classification 2025, 2026. Available at: https://ckan.publishing.service.gov.uk/dataset/wfd-lake-water-bodies-cycle-4-classification-2025
[55] Environment Agency. WFD Groundwater Bodies Cycle 4 Classification 2025 (Full Resolution), 2026. Available at: https://ckan.publishing.service.gov.uk/dataset/wfd-groundwater-bodies-cycle-4-classification-2025-full-resolution
[56] Environment Agency. WFD River Basin Districts Cycle 4, 2026. Available at: https://ckan.publishing.service.gov.uk/dataset/wfd-river-basin-districts-cycle-4
[57] Environment Agency. WFD Surface Water Operational Catchments Cycle 4, 2026. Available at: https://ckan.publishing.service.gov.uk/dataset/wfd-surface-water-operational-catchments-cycle-4
[58] Environment Agency. WFD Surface Water Management Catchments Cycle 4, 2026. Available at: https://ckan.publishing.service.gov.uk/dataset/wfd-surface-water-management-catchments-cycle-4
[59] Environment Agency. Water Quality Explorer. 2026. Available at: https://environment.data.gov.uk/water-quality-beta
[60] Environment Agency. Flood Map for Planning. 2026. Available at: https://flood-map-for-planning.service.gov.uk/

Source	Relevance to the Assessment
Risk of flooding from reservoirs;[61] Flood warning areas and risk;[62] and Statutory Main River Map.[63]	Mapping of all Main Rivers within England.
Multi-Agency Geographical Information for the Countryside (MAGIC) map website[64] National Soil Resources Institute Soilscapes website[65] OSM Landuse Landcover maps[66]	Mapping of various environmental and spatial datasets including designated areas and land use. Digital soil map covering England, outlining drainage, land use and soil fertility. Satellite-driven spatial layers which provide breakdowns of land use in a given area.
Groundwater Dependent Terrestrial Ecosystems (GWDTEs)[67]	Locations of GWDTEs as assessment by the EA for the WFD, based on Sites of Special Scientific Interest (SSSI) outlines from Natural England.
Meteorological Office website[68] EA Lower Colne Modelling and Mapping Study 2012[69]	Providing nearest rainfall stations and climate trends. To provide hydraulic modelling outputs.
Groundsure report (report to be commissioned to inform EIA)	Licensed abstractions and consented discharges and locations of potential contamination sources.

[61] Environment Agency. Check long term flood risk. 2025. Available at: https://check-long-term-flood-risk.service.gov.uk/map
[62] Environment Agency. Flood Warning Areas. 2025. Available at: https://www.data.gov.uk/dataset/0d901c4a-6e1a-4f9a-9408-73e0c1f49dd3/flood-warning-areas3
[63] Environment Agency. Statutory Main River Map. 2025. Available at: https://www.arcgis.com/apps/webappviewer/index.html?id=17cd53dfc524433980cc333726a56386
[64] Department for Environment, Food & Rural Affairs. MAGIC Map Application. 2026. Available at: https://magic.defra.gov.uk/MagicMap.html
[65] Cranfield Environment Centre. LandIS. 2016. Available at: https://portal.landis.org.uk/
[66] OSM Landuse Landcover. OSM Land Use Land Cover Maps. N.d. Available at: https://osmlanduse.org
[67] Environment Agency. Groundwater Dependent Terrestrial Ecosystems. 2026. Available at: https://www.data.gov.uk/dataset/72a149a2-1be7-441f-bc37-94a77f261e27/groundwater-dependent-terrestrial-ecosystems-england-only
[68] Meteorological Office. Met Office Climate Data Portal. 2026. Available at: https://climatedataportal.metoffice.gov.uk/
[69] Mott Macdonald. EA Lower Colne Modelling and Mapping Study. 2012

22.5.2 Baseline Surveys

22.5.2.1 Fortnightly (bi-monthly) water quality monitoring commenced in August 2026 at 21 monitoring locations across the surface water drainage network (including parts of the River Colne, Colne Brook, Wraysbury River, the Duke of Northumberland's River, and the Longford River). The survey programme will continue for a 12-month period to provide a baseline of the water quality environment. The monitoring includes an extensive suite of approximately 130 laboratory determinands, including all WFD physico-chemical parameters, specific pollutants and priority substances as defined by the Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015.

22.5.2.2 No baseline surveys relating to the river diversions have been undertaken to date. However, at subsequent stages of the works, it is anticipated that a topographic survey will be required at the locations of the diversion channels, as well as channel survey for the Duke of Northumberland's River and Longford River in the reaches downstream of the airport.

22.5.2.3 It is considered that the desk-based data sources provided above (see **Table 22-4)** and baseline survey data collected to date are sufficient to inform the scoping assessment for all elements at this stage of the assessment. Ongoing surveying will be used to refine the baseline and support subsequent stages of the assessment.

22.6 Baseline Conditions

22.6.1 Baseline Description

22.6.1.1 The baseline conditions in this Chapter have been established via a desk-based study at the time of writing. The available data from the desk study i.e. those datasets outlined as above (**Table 22-4**), are deemed adequate to inform the scoping assessment for the water environment. The baseline information will be reviewed during the preparation of the ES and additional detail included where relevant as further stakeholder consultation is undertaken and further data provided.

22.6.1.2 Given the variable nature of the water environment through time, it is challenging to accurately predict future baseline conditions. However, in terms of flood risk, the future baseline conditions will consider climate change impacts on the risk of flooding from surface water and the risk of flooding from rivers and sea.

22.6.1.3 An FRA, Drainage Strategy and WFD Assessment will be produced to inform the ES and DCO Application. The FRA will include detailed baseline and proposed hydrological and hydraulic modelling. Other technical assessments such as water quality assessments and groundwater modelling to assess the potential effects of the Proposed Development on the groundwater environment will also be required.

22.6.2 Overview of the Study Areas

The Site

22.6.2.1 The Site (**Figure 22.1**) covers the Scoping Boundary of which the principal area of the Proposed Development is located between the existing Terminal 5 (T5) building and the M25 motorway. The Site is predominantly urban and suburban in nature and includes the entirety of Heathrow Airport and surrounding transport links, including the M25, M4 and M4 Heathrow Spur motorways, A4, A30, A308, A312 and A3044 trunk roads and major rail links.

Topography, Land Use and Climate

22.6.2.2 The topography of the baseline receiving environment broadly falls from northeast to southwest, from approximately 35m Above Ordinance Datum (AOD) to 15m AOD. The land use within the baseline receiving environment encompasses portions of the existing airport and its associated infrastructure, residential areas, transport features (including the M4 motorway, M25 motorway, A4 (Colnbrook Bypass), A30 (Staines Bypass), the Heathrow Airport Perimeter Road and a number of local roadways), and other existing features including open greenspace, reservoirs, waste management and minerals extraction, and agricultural fields[66].

22.6.2.3 Based on the Meteorological Office website[68] the nearest rainfall station is Heathrow (National Grid Reference (NGR): TQ 07800 76700; 25m AOD) and is located directly south of Northern Perimeter Road West. Using data from this weather station for the period 1991 to 2020, it is estimated that the Study Area experiences approximately 615 millimetres (mm) of rainfall per year, with it raining more than 1mm on approximately 111 days per year, which are both low in a UK-wide context. The driest month recorded is March with an average of 38.78 mm and the wettest is November with an average of 66.63 mm of rainfall.

Groundwater Study Area (GWSA)

22.6.2.4 The GWSA covers the extent of the Lower Thames Gravels Groundwater Body which comprises shallow, permeable sand and gravel deposits associated with the Thames Valley between Windsor and west London. These deposits form an unconfined aquifer that is hydraulically connected to the River Thames, its tributaries, and numerous former gravel pits. The sand and gravel deposits overlie a sequence of less permeable Tertiary deposits, including the London Clay and Lambeth Group, and are locally hydraulically connected to the underlying Chalk aquifer.

22.6.2.5 Groundwater flow generally follows the Thames Valley towards the east and southeast, with recharge occurring mainly through rainfall infiltration and, locally, from the underlying Chalk aquifer. Strong groundwater–surface water interaction is a key feature of the GWSA, with the gravels providing baseflow to rivers and responding rapidly to changes in river levels and seasonal recharge.

22.6.2.6 The sand and gravel aquifer has high transmissivity but limited storage and is particularly vulnerable to contamination due to its shallow depth, high permeability, and extensive urban and industrial land use across much of the groundwater body. Overall, it is an important groundwater resource that supports river flows, wetlands, and floodplain ecosystems within the Lower Thames Valley. However, according to Multi-Agency Geographical Information for the Countryside (MAGIC) maps, the study area does not lie within a Drinking Water Protected Area for groundwater resource, but the western parts lie within areas designated by the Environment Agency as Drinking Water Protected Areas for surface water.

Flood Risk Study Area (FRSA)

22.6.2.7 The FRSA is a relatively low-lying area, in which the topography falls from north to south from approximately 35m AOD to 15m AOD. The FRSA has a large urban and suburban extent, including business premises and mixed-use open land. However, there are also a number of large areas of open land, notably Staines Moor, part of which is designated a Site of Special Scientific Interest, located in the southwest of the FRSA. The FRSA is widely used for mineral extraction with several areas of current and past mineral workings. Many of these have been historically landfilled and restored to farmland or as nature reserves.

22.6.3 WFD Water Bodies and their Classification

22.6.3.1 The Proposed Development is located within the Thames RBMP and within the Colne and Crane and London management catchments. The Proposed Development is also located predominantly within the Colne and Crane Rivers and Lakes operational catchments, with some elements of the Proposed Development extending into the Maidenhead and Sunbury and Lakes and Wey and Trib operational catchments.

22.6.3.2 The aim of a WFD is for all water bodies to achieve Good Status and to ensure no deterioration from their current status. Rivers, lakes and artificial water bodies can also be designated as Heavily Modified Water Bodies (HMWB) or Artificial Water Bodies (AWB). A HWMB has been significantly modified for human use, for example, for the purposes of land drainage or flood protection. An AWB is an artificial water body created for a specific purpose such as water transfer.

22.6.3.3 WFD water bodies are monitored in Cycles, with the current WFD Cycle 4 classifications representing the most recent baseline for these water bodies and will be used to inform the assessment of potential effects.

22.6.3.4 Under Cycle 4 classification data, the majority of the surface water features are designated as WFD water bodies, with some exceptions to smaller lakes, ponds and drainage channels, although these still reside within the wider WFD catchments. The current WFD Cycle 4 classifications represent the most recent baseline for these water bodies and will be used to inform the assessment of potential effects. Aside from Horton Brook and the River Crane, all the rivers in the LSA are designated as HMWBs, for the purposes of flood defence and/or

urbanisation. These include The Moat at Egham, Thames (Egham to Teddington), Thames (Cookham to Egham), Datchet Common Brook, Portlane Brook, Surrey Ash, Colne Brook and Colne (confluence with Chess to River Thames).

22.6.3.5 The Grand Union Canal (Uxbridge to Hanwell Locks, Slough Arm, Paddington Arm), Upper and Lower Duke of Northumberland's River, Longford River, King George VI Reservoir water transfer, Heron Lake and Wraysbury Lake and the reservoirs are designated as AWBs. All water bodies within the LSA are designated as currently being less than Good status.

22.6.3.6 The Proposed Development is underlain entirely by the Lower Thames Gravels groundwater body which also defines the extent of the GWSA. A number of Pleistocene river terrace gravel deposits extent east to west from Windsor to Richmond, and north to south from Hillingdon to Walton-on-Thames. This groundwater body is currently defined as being at Poor status with respect to its overall water body classification. In Cycle 3 the reason for not achieving good (RNAG) is continuous sewerage discharge activity.

22.6.3.7 The Thames Upper component of the River Thames Transitional Water Body defines the downstream extent of the WSA and is located immediately downstream of the River Crane.

22.6.3.8 The WFD water bodies in the study area (including the LSA, WSA and GWSA) are shown in **Figure 22-6**

22.6.4 Surface Waters

22.6.4.1 The LSA contains numerous surface watercourses. The main channels within the LSA, listed from west to east comprise Datchet Common Brook, Horton Brook, Colne Brook, Poyle Channel, Bigley Ditch, Wraysbury River, River Colne, Fray's River, River Ash, Longford River, the Duke of Northumberland's River, Frogs Ditch and the River Crane.

22.6.4.2 The Proposed Development lies within the hydrological catchment of the River Thames. There are a number of watercourse tributaries of the Thames within the FRSA which can be divided into two main catchments; the Colne catchment to the west of the Proposed Development and the Crane catchment to the east of the Proposed Development.

22.6.4.3 The WSA extends beyond the LSA to include multiple tributaries of the Thames within the Colne and Crane catchments, together with the lower reaches of the River Thames.

22.6.4.4 Details of the surface waters within the LSA and WSA are provided in **Table 22-6** below. The locations of the watercourses with respect to the Proposed Development can be seen in **Figure 22-3.**

Table 6: Surface Water receptors within the LSA and WSA

ID	Name	Description
LSA		
HB	Horton Brook	Horton Brook is a tributary of Colne Brook that passes through the western areas of the Site. It flows north to south and runs approximately parallel to the Colne Brook, with its confluence with Colne Brook located approximately 400m upstream of the confluence of the Colne Brook and the River Thames.
CB	Colne Brook	Colne Brook originates from the bifurcation of the River Colne, west of Uxbridge. It crosses underneath the M25 to the north of the M4/M25 interchange and immediately to the west of this interchange it crosses underneath the M4. It flows through the western side of Poyle, and to the west of the Wraysbury Reservoir before its confluence with the River Thames to the south of Junction 13 of the M25. Flows from north to south though the Site and FRSA. It has a total length of approximately 15.2km and a catchment area of 10.0km².
CD	County Ditch	The County Ditch is a small section of Main River located in the west of the Site. It flows from east to west and discharges into the Colne Brook.
PC	Poyle Channel	The Poyle Channel originates from the bifurcation of the Wraysbury River, carrying a portion of the flow east to west from its origin on the west side of the M25 and to the south of Bath Road. It flows through Poyle and into Colne Brook in the Arthur Jacob Nature Reserve upstream of the confluence of the Colne Brook and the River Thames, which is located south of Junction 13 of the M25. It flows through the western area of the Site and FRSA.

ID	Name	Description
BD	Bigley Ditch	Bigley Ditch flows from the River Colne from the northeast of the M4/M25 interchange, crossing beneath this junction and flowing south predominantly parallel to the M25 until its confluence with Wraysbury River in the south of Harmondsworth Moor. It is located in the western half of the Site.
WR	Wraysbury River	The Wraysbury River is located in the western half of the Site. It originates from the bifurcation of the River Colne north of the M4, where it then flows south through Harmondsworth Moor, and then parallel to the east side of the M25. It crosses beneath the M25 near Poyle, where it bifurcates, with the majority of flow diverted westwards into the Poyle Channel and the remainder continuing southwards in the Wraysbury River. Approximately 850m along the east of the Wraysbury Reservoir, Wraysbury River flows back underneath the M25 and continues south until it converges with the River Colne just north of the confluence with the Thames.
HS	Hithermoor Stream	The Hithermoor Stream flows in a southerly direction through the western half of the Site. It is a bifurcation of the River Colne and is situated east of Wraysbury Reservoir. The stream flows via Hithermoor Lake prior to reconnecting with the River Colne.
HLD	Holme Lodge Ditch	Holme Lodge Ditch is located in the western half of the Site and diverges from the Longford River before flowing in a southernly direction and joining the Stanwell Moor Ditch.
RCo	River Colne	The River Colne comprises a network of channels that flow south through the Colne Valley Regional Park, west of Uxbridge and West Drayton. It continues south through Harmondsworth Moor and passes to the west of Heathrow Airport and the King George VI Reservoir before joining the River Thames at Staines-upon-Thames. The river has a number of bifurcations relevant to the Proposed Development, including Wraysbury River, Longford River and the Duke of Northumberland's River. It is located in the western half of the Site.

ID	Name	Description
RA	River Ash	The River Ash is a bifurcation of the River Colne, south of the King George VI Reservoir (NGR: TQ 03725 72283). From there it flows broadly southeast, converging with Stanwell Brook in Ashford before continuing in a southeasterly direction to its confluence with the Thames west of Sunbury. It is located in the south of the FRSA and passes through southern areas of the Site.
DoN/LoR	Twin Rivers (Duke of Northumberland's River / Longford River)	The Duke of Northumberland's River originates from a bifurcation of the River Colne within Harmondsworth Moor, south of the M4, and flows south towards the northwestern boundary of Heathrow Airport. The Longford River is another bifurcation of the Colne, originating at Longford to the northwest of the airport. Both watercourses flow through the Site and are historic artificial channels that flow south between Stanwell Moor Road and the Western Perimeter Road. The Duke of Northumberland's River conveys flows eastwards to the River Crane and subsequently to the River Thames as Isleworth. The Longford River follows the southern boundary of the airport before flowing southeast through Bushy Park and Hampton Court, eventually joining the River Thames.
RCr	River Crane	The River Crane is located to the east of Heathrow Airport, and the majority of the airport lies within its catchment. It is located in the east of the Site and flows generally north to south past Heathrow before turning east through Twickenham and then north through Isleworth to its confluence with the River Thames. The upper reaches of the River Crane are formed by the Yeading Brook.
SM	Stanwell Moor Ditch	Stanwell Moor Ditch flows through small areas in the west of the Site. It originates near Stanwell Moor Road to the southwest of Heathrow Airport, and flows southwest, approximately parallel with Hithermoor Road. It flows through Ricketts Park before joining the River Colne to the west of the King George VI Reservoir.

ID	Name	Description
BoD	Bonehead Ditch	Formed by a bifurcation of the River Colne within Staines Moor, this channel initially flows southeast before turning south along the western edge of the King George VI Reservoir. It then rejoins the main channel of the River Colne immediately north of Staines Bypass. It is located in the western half of the FRSA.
FD	Frogs Ditch	A tributary of the River Crane that flows from northwest to southeast, crossing beneath the M4 and through Cranford Park. The watercourse is approximately 2.5km in length and flows through the east of the Site.
FR	Fray's River	A tributary of the River Colne that branches off from the river at Denham Weir and flows south through Uxbridge, Cowley, Yiewsley and West Drayton. It rejoins the River Colne in western West Drayton, adjacent to Wren Drive. It is located in the north of the FRSA.
RP	River Pinn	The River Pinn flows south through Pinner, Eastcote, Ruislip, Ickenham and Uxbridge before crossing beneath the Grand Union Canal and joining the Frays River at Yiewsley. It forms part of a parallel drainage network between the River Colne and River Crane. It is located in the north of the FRSA and crosses through small northern areas of the Site.
GUC	The Grand Union Canal	The Grand Union Canal (Uxbridge to Hanwell Locks, Slough Arm, Paddington Arm) is located in the north of the Site and in the north of the FRSA. It flows from west to east, crossing numerous watercourses along its route including the River Pinn, Fray's River, River Colne and Colne Brook.
KG	King George VI Reservoir water transfer	The King George VI reservoir water transfer flows broadly east from south of Shortwood Pond, and then parallel to Staines Road West, before turning northeast at Sunbury-on-Thames. It then crosses Felthamhill Brook and converges with Portlane Brook.

ID	Name	Description
JR	Jubilee River	The Jubilee River begins north of Taplow, flowing broadly south and southeast in a similar direction to the Thames, flowing through Dorney Reach, Dorney, Eton Wick, and the north of Eton. It then turns south and joins the Thames at Yellowfoot Lodge.
SB	Stanwell Brook	A main river and tributary of the River Ash, originating as two branches (west and east) to the east of Staines Reservoirs. The west branch flows south from the Southern Perimeter Road through Stanwell, approximately parallel to Town Lane. The east branch originates near Long Lane Recreation Ground, flowing approximately parallel to Long Lane. The two branches converge immediately south of London Road, after which Stanwell Brook flows southwest before joining the River Ash to the north of Staines Bypass. Located within the south of the FRSA and flows through small areas of the Site in the south.
PB	Portlane Brook	Portlane Brook, originates in Feltham to the south of Heathrow Airport. The watercourse drains generally southeastwards before joining the River Thames to the east of Sunbury. It is located to the south of the FRSA.
FB	Felthamhill Brook	A tributary of Portlane Brook that originates near Meadhurst Sports Ground. The watercourse flows west along the edge of Kenyngton Manor Recreation Grounds before turning south and flowing underneath Great Chertsey Road to join Portlane Brook. It is located to the south of the FRSA.
CDS	County Ditch Staines	An unnamed main river, likely to be a reach of County Ditch, a designated main river, originates to the southwest of Poyle. It is anticipated that the watercourse was altered during the construction of Wraysbury Reservoir. The watercourse flows largely south, parallel to the western edge of Wraysbury Reservoir and Coppermill Road. Before joining County Ditch, where it flows broadly southeast, through the area that contains Lakes_4 and Heron Lake before joining the River Thames south of Lammas Recreation Ground. It passes through the western sections of the Site.

ID	Name	Description
DCB	Datchet Common Brook	Datchet Common Brook begins to the south of Upham Lake, flowing south through Wexham Court and Upton Lea, before turning southeast towards The Queen Mother Reservoir. It follows the southwestern edge of the reservoir before joining the River Thames at Sunnymeads. It flows through a small, western section of the Site and FRSA.
HD	Hurst Ditch	Hurst Ditch is a Main River, located south of Egham, that borders the south of the FRSA and flows in a southerly direction before discharging into The Moat.
MD	Meadlake Ditch	The Meadlake Ditch is a Main River that flows south from Egham, passing Thorpe Hay Meadow towards Norlands Lane before discharging into Fleet Lake. It is located in the south of the FRSA.
SwD	Sweeps Ditch	Sweeps Ditch flows South of Staines upon Thames. It is located in the south of the FRSA, flowing in a southerly direction before discharging into the Thames, to the south of the FRSA.
SaL	Saxon Lake	A former gravel pit located in the northeast of Harmondsworth Moor. Immediately to its west lies the River Colne and the point at which it bifurcates to form the Duke of Northumberland's River.
Unnamed_2	Unnamed main river in Milton Park	An unnamed Main River originating south of Egham Hill and flowing south through Milton Park (where it joins Hurst Ditch), before turning east underneath Junction 12 of the M25 And into the lakes around Thorpe Park.
SwL	Swan Lake	A former gravel pit located within Harmondsworth Moor. The River Colne flows south along its western edge, while the Duke of Northumberland's River flows south along its eastern edge.

ID	Name	Description
Lakes_1	Lakes to northeast of M4 Junction 4B	A number of lakes within Thorney Country Park, including Mayfields Lake and Thorney Pool. Colne Brook flows along the northwestern side of these lakes, while the River Colne flows along the eastern side.
Lakes_2	Lakes to east of Iver North Water Treatment Works	A number of lakes north of the Proposed Development and intersected by the Grand Union Canal (Slough Arm), to the east of Iver North Water Treatment Works.
Lakes_3	Lakes at Bedfont Lakes Country Park	A number of lakes within Bedfont Lakes Country Park, to the south of the existing Heathrow Airport site.
Lakes_4	Lakes adjacent to M25 Junction 13	A number of lakes around Junction 13. The area here is intersected by the Colne Brook in the west, Wraysbury River to the east and County Ditch Staines flowing between them.
Lakes_5	Lakes east and north-east of Wraysbury/south of Horton	A number of lakes to the west of Wraysbury Reservoir and Colne Brook, and northeast of Wraysbury. The River Thames border them on the western side of this area.
Lakes_6	Lakes north of Horton/west of Poyle	A number of lakes within the Arthur Jacob Nature Reserve, intersected by Poyle Channel and Colne Brook.
HL	Heron Lake	A lake situated to the south of those within the group of lakes at Lakes_4. It is located within the area bounded by Heron Lake Road, Wraysbury Road and the A30.
SRes	Staines Reservoir (north and south)	Staines Reservoirs are split into two water bodies, north and south. They are located to the immediate east of the King George VI Reservoir and southwest of Stanwell. The reservoirs are artificial, embanked water bodies supplied by water abstracted from the River Thames and operated by Thames Water for public water supply.

ID	Name	Description
QMRes	Queen Mother Reservoir	The Queen Mother Reservoir is located to the northwest of Horton. It is an artificial embanked water body supplied by water abstracted from the River Thames and operated by Thames Water for public water supply.
WRes	Wraysbury Reservoir	A reservoir located south of Poyle, to the west of the M25. It is an artificial embanked water body supplied by water abstracted from the River Thames and operated by Thames Water for public water supply.
KGRes	King George VI Reservoir	A reservoir located south of Stanwell Moor and to the immediate west of the Staines Reservoirs. It is an artificial embanked water body supplied by water abstracted from the River Thames and operated by Thames Water for public water supply.
EBRes	Eastern Balancing Reservoir	The Eastern Balancing Reservoirs provide attenuation of flows from Heathrow Airport prior to controlled discharge to the River Crane. Water within the reservoirs is treated through oil separation, settlement and aeration processes. The EBRes also acts as the primary water storage facility for firefighting at Heathrow Airport.
WSA		
TR	Thames	The River Thames flows from west to east to the south of the Proposed Development and serves as the ultimate receiving watercourse for the waterbodies within the LSA. The WSA encompasses the River Thames and its tributaries within the River Colne and River Crane catchments, as well as the lower reaches of the River Thames itself. This includes the Pinn, Alderbourne, Upper Cole and Ellen Brook, Misbourne, Ver, Gade and reaches of the Colne from its confluence with Ver to Gade and its upper east arm including Mimshall. The Thames flows through a small, southern area of the Site and through the eastern and southern sections of the FRSA.

ID	Name	Description
AB	Alder Bourne	The Alder Bourne rises near Fulmer in Buckinghamshire and flows southeast through the rural Alder Bourne valley. It then reaches Uxbridge Moor, where it joins the Colne Brook near the M25, becoming part of the wider River Colne catchment. It has a total length of 8.3km, with only 1.2km located in the northern area of the FRSA.
YB	Yeading Brook	Yeading Brook forms the upper reaches of the River Crane. Yeading Brook rises in Harrow, with its headwaters originating from Headstone Manor moat and a network of small streams, drainage channels and surface water drains. As it flows south, it is joined by several tributaries, including Roxbourne Brook and the East Arm. The Yeading Brook flows through North Harrow, South Ruislip and Yeading, before forming the boundary between Southall and Hayes. Yeading Brook becomes the River Crane near the Grand Union Canal and Hayes Road. It flows through a small area in the northeast of the FRSA and crosses the Site in the northeast.
RB	River Brent	A river rising in the Borough of Barnet and flowing generally southwest through the Brent Reservoir, Perivale, Greenford, before turning south through Hanwell and flowing into the River Thames at Brentford.

22.6.5 Hydromorphology

22.6.5.1 The baseline conditions for Hydromorphology outlined below apply to those more major Surface Waters identified in **Table 22-6** above.

22.6.5.2 The Colne Brook WFD water body is classified as heavily modified. The channel flows through a heavily engineered corridor within the Colne Valley and has been subject to progressive long-standing modifications to accommodate infrastructure, including the M25/M4 interchange near Thorney Country Park, as well as some minor channel straightening[70].

22.6.5.3 The River Colne (Confluence with Chess to River Thames) WFD water body is classified as heavily modified. Historic mapping[70] indicates that the channel planform has remained largely unchanged within the Study Area since at least the late nineteenth and early twentieth centuries. However, long-standing management of flows and water levels, together with associated infrastructure, has altered the river's hydromorphological functioning.

22.6.5.4 The Horton Brook WFD water body is not classified as heavily modified. The presence of alluvial and floodplain silt deposits indicates that the watercourse has developed within an established fluvial corridor. Review of historic mapping[70] and aerial imagery indicates that the watercourse has retained much of its historic alignment, although some channel straightening is evident.

22.6.5.5 The River Ash (Surrey Ash WFD Water Body) is classified as heavily modified. The watercourse flows across predominantly superficial gravel deposits, similar to those present across much of the surrounding area. Historic mapping and aerial imagery indicate that the watercourse has retained much of its historic alignment[70]. However, its hydromorphology has been influenced by modifications associated with flood risk management and urban development.

22.6.5.6 The Portlane Brook WFD water body is classified as heavily modified. The watercourse flows across predominantly superficial gravel deposits, similar to those present across much of the surrounding area. Historic mapping[70] suggests that the watercourse has largely retained its historic alignment. However, its hydromorphology has been influenced by physical modifications associated with urban development.

22.6.5.7 The River Crane (Crane WFD water body) is not classified as heavily modified. Historic mapping[70] shows that it has been realigned in places, particularly south of Feltham Marshalling Yards Nature Reserve, and that some minor meanders have been straightened. Some additional physical modifications of the watercourse have been undertaken for flood risk management and reservoir impoundment.

[70] National Library of Scotland. Side by Side Georeferenced Maps. 2026. Available at: https://maps.nls.uk/geo/explore/side-by-side/

22.6.5.8 The Yeading Brook WFD water body is classified as heavily modified. Historic mapping[70] indicates that the channel has undergone some meander straightening in its lower reaches to accommodate the heavily urbanised environment through which it flows.

22.6.5.9 The Upper Duke of Northumberland's River and Longford River WFD water bodies (collectively referred to as the 'Twin Rivers') are both classified as artificial water bodies. The Duke of Northumberland's River was constructed in the 16th century, while the Longford River was constructed in the 17th century. Both function as surface water transfer channels and have been diverted from their original course on two occasions. Historic mapping[70] shows both channels were diverted westwards and southwards during the construction of Heathrow Airport in the 1940s and again during the construction of Terminal 5, to follow the western and southern perimeter of the airport.

22.6.5.10 A number of smaller watercourses and ditches are present, and whilst they do not have individual WFD classifications, they will be considered as part of the WFD catchment within which they are located. These watercourses are often small tributaries of the WFD water bodies / Statutory Main Rivers in the area and may be associated with near-surface aquifers and former commercial quarrying activities. Although their individual contribution to sediment transport and erosion processes is likely to be limited, they may provide locally important aquatic habitat, regardless of whether they are natural or artificial.

22.6.6 Groundwater, Geology and Hydrogeology

22.6.6.1 The GWSA of the Proposed Development is predominantly underlain by varying superficial deposits comprising alluvium, river terrace deposits (sand and gravel) and head deposits. These are underlain by thick London Clay Formation, the Lambeth Group, the Thanet Formation and the Chalk at depth (see **Table 22-7**). A small outcrop of the Chalk is mapped in the western edge of the Site around Windsor where parts of it are directly overlain by the Shepperton Gravel Member. However, the strata dips westerly in the central part of Heathrow Airport.

22.6.6.2 There are pockets of the northern part of the Site where superficial deposits are absent, and this part of the Site is directly underlain by the London Clay Formation.

22.6.6.3 The GWSA has a history of significant exploitation of sand and gravel deposits, with the former extraction sites either currently occupied by open water bodies or landfill areas. The alluvium is mainly associated with watercourse routes. **Table 22-7** provides a summary of the geological sequence present below the GWSA. The geology is presented in **Figure 22-4** and **Figure 22-5**. Further details are provided in **Chapter 16: Ground Conditions**.

22.6.6.4 In hydrogeological terms, the Chalk aquifer present at depth below the GWSA is the main water-bearing strata, designated a Principal Aquifer by the EA, and is often in hydraulic continuity with the Thanet Formation and the basal unit of the

Lambeth Group. However, a significant proportion of the river terrace deposits across the GWSA are also designated by the EA as Principal Aquifer, likely due to their importance as a source of public water supply. There are smaller pockets of the river terrace and alluvium deposits designated as Secondary A Aquifers. Where head deposits are present, these are designated as either 'Secondary Undifferentiated' or 'Unproductive Aquifers'. The Lambeth Group that overlies the Chalk is designated a Secondary A while the London Clay is an Unproductive Strata.

22.6.6.5 The definitions of the aquifer designations by the EA[71] is provided below. Principal Aquifers are defined as rock layers that "*provide significant quantities of drinking water, and water for business needs. They may also support rivers, lakes and wetlands*". Secondary A Aquifers are "*permeable layers that can support local water supplies, and may form an important source of base flow to rivers*". Secondary undifferentiated are "*aquifers where it is not possible to apply either a Secondary A or B definition because of the variable characteristics of the rock type. These have only a minor value",* while Unproductive Strata are strata that are "*largely unable to provide usable water supplies and are unlikely to have surface water and wetland ecosystems dependent on them*".

22.6.6.6 As indicated above, the river terrace deposits are water bearing and are likely to be in hydraulic continuity with the surface watercourse within the GWSA. Limited groundwater is expected to be present within the London Clay Formation, which is predominantly a low permeability stratum, except where sandy bands are present. This is similar with the Lambeth Group. These thick low permeability formations confine the groundwater within the underlying Chalk aquifer.

22.6.6.7 The HAL Scoping Report[72] identified the presence of scour hollows in the London Clay Formation typically infilled with more permeable material increasing the potential for hydraulic connection with the underlying bedrocks. At least two such hollows were reported in previous assessments completed by Jacobs in 2015[73] in the vicinity of Heathrow Airport. One at Old Slade Lake, and the other close to the M25/M4 interchange, northwest of Junction 4 of the M418. Other unknown scour hollows may also exist across the GWSA. This information will be sought and reviewed as part of the baseline update in the assessment stages.

22.6.6.8 **Table 22-4** established that the site is wholly underlain by the Lower Thames Gravels WFD groundwater body. The geological strata and aquifer designations are presented in **Table 22-7**.

[71] Environment Agency. Protect groundwater and prevent groundwater pollution. 2017. Available at https://www.gov.uk/government/publications/protect-groundwater-and-prevent-groundwater-pollution/protect-groundwater-and-prevent-groundwater-pollution., accessed 29/09/2026
[72] Heathrow Airport Limited, 2018, EIA Scoping Report Chapter 18: Water environment
[73] Jacobs (2015), Geotechnical and Geo-environmental Desk Study - Report Western Link to Heathrow Desk Study

Table 22-7: Geological Strata in the GWSA and Aquifer Designations

Strata	Typical Lithology	Aquifer Designation
Superficial Deposits		
Alluvium	Clay, silt, sand, gravel (variable thickness)	Secondary A Aquifer locally where sandy/gravelly; often hydraulically connected to terrace deposits
Langley Silt Member	Clay and silt (variable thickness, less than 5m)	Unproductive Aquifer
River Terrace Deposits including Kempton Park Gravel Member, Taplow Gravel, Shepperton Gravel Member and Lynch Gravel Member	Predominantly sand and gravel with minor silt/clay deposits (variable thickness – up to 15m locally)	Principal Aquifer; important shallow groundwater unit, varying permeability depending on the extent of granular deposits
River Terrace Deposits including Boyn Hill Gravel Member and Black Park Gravel Member	Predominantly sand and gravel with minor silt/clay deposits (variable thickness – circa 5m)	Secondary A Aquifer; variable permeability deposits as above
Bedrock		
London Clay	Clay, silt and sand (greater than 70m)	Unproductive Aquifer
Lambeth Group	Interbedded layers of Clay, silt and sand (up to 39m)	Secondary A Aquifer; variable permeability deposits. Basal layer often in hydraulic continuity with the Chalk
Thanet Formation	Silty fine-grained sand (less than 5m)	Secondary A Aquifer but often in hydraulic continuity with the Principal Chalk Aquifer
Undifferentiated Chalk (Seaford and Newhaven Chalk Formation)	Chalk and flint	Principal Aquifer – predominantly fracture flow with lower matrix permeability

22.6.6.9 The EA has few groundwater monitoring boreholes in and around the GWSA as shown in the EA hydrology data explorer. Two of the monitoring boreholes located in the western edge of the GWSA at Windsor and Albany Park are shallow and monitor the groundwater level in the gravel aquifer. The data showed shallow groundwater levels between less than 1m and 3m below datum. The data was typically between 13m and 19m Above Ordnance Datum (m AOD).

22.6.6.10 Up to five monitoring boreholes in or around northern edge of the Site were installed in the deeper Chalk aquifer at depths of more than 100m below datum. The data from these boreholes shows groundwater levels in the Chalk varied between 19m AOD and 38m AOD across these monitoring over the past five years. This was between up to 30m and 18m below datum. It is likely that the fluctuation in the data may be attributable to groundwater abstraction regime in the vicinity of these monitoring points. However current groundwater levels across the Proposed Development Site will be confirmed by ground investigation and groundwater monitoring as part of the Proposed Development.

22.6.6.11 Groundwater flow in the unconfined Chalk outcrop is likely to be discharging as springs and seepages along the interphase where the Chalk becomes confined by the London Clay or where the gravels absent or are thin as well as where there are variations in permeability due to the heterogeneity of the underlying strata. Artesian / sub artesian conditions with upward hydraulic gradient are also expected between the River Terrace Deposits and the Chalk.

22.6.6.12 Regionally, chalk groundwater flows to the south and east towards the Colne Valley and the River Thames corridor.

22.6.7 Flood Risk

22.6.7.1 The sources of flood risk assessed within the FRSA are included below:

- Fluvial flood risk associated with the Main Rivers and Ordinary Watercourses.
- Surface water flood risk.
- Groundwater flood risk.
- Tidal Flood Risk.
- Flood risk from artificial sources, including reservoirs, canals and the sewer network.

Fluvial Flood Risk

22.6.7.2 Areas at risk of fluvial flooding are concentrated in the western half of the Site and FRSA, primarily associated with flooding from the Horton Brook, Colne Brook, County Ditch, River Colne, Wraysbury River and Bonehead Ditch. Other than flooding located along the River Crane, the eastern half of the Site and FRSA is largely outside of Flood Zone 2 and 3 and at a ‘Low’ risk of fluvial flooding.

22.6.7.3 **Figure 22-7** shows the areas of the FRSA that are located within EA designated Flood Zone 2 ‘Medium Probability’ and Flood Zone 3 ‘High Probability’.

22.6.7.4 The most extensive areas of fluvial flood risk within the FRSA are associated with the River Colne, Colne Brook and River Thames. Along these EA Main Rivers, areas of Flood Zone 2 and Flood Zone 3 extend significantly into the floodplain.

22.6.7.5 There is significant flooding in the southern and western part of the FRSA, associated with River Thames, County Ditch Staines, Wraysbury River, Bonehead Ditch, and the River Ash, of which much of the south western area of the FRSA is located in Flood Zone 2 and 3, as well as the southern and western areas surrounding the FRSA.

22.6.7.6 Along some reaches, these areas of Flood Zone 2 and 3 correspond to lakes, rather than flooding in the floodplain. For instance, significant areas of flooding adjacent to the Colne Brook reflect the location of lakes, ponds and their immediate surrounding areas.

22.6.7.7 The Long-Term Flood Risk online mapping tool includes new datasets for the Flood Risk from Rivers and Sea (RoFRS), provided as part of the wider 'National FRA' (NaFRA) mapping update in early 2025.

22.6.7.8 Within the Site, the present day RoFRS extents are similar to the Flood Zones, however in some areas the Flood Zones are more extensive. This is expected, as the Flood Zones do not account for flood defences and the RoFRS do.

22.6.7.9 The present day RoFRS extents within the FRSA are displayed in **Figure 22-8** and are largely consistent with the Flood Zones, in which flooding is largely concentrated in the southern and western areas of the Site and FRSA. In some areas the Flood Zones are more extensive than the RoFRS extents, as the Flood Zones do not account for flood defences. The majority of the FRSA is at a 'Very Low' risk of flooding from rivers and sea. The flooding located in the southern and western areas of the FRSA range from 'Low' to 'High' risk.

22.6.7.10 The RoFRS dataset also includes future climate change scenarios; one based on a 'central' allowance for the 2050s epoch (i.e. a projection for peak river flows/sea level rise to the year 2069) and the other based on a 'central' allowance for the 2080s epoch (i.e. a projection for peak river flows/sea level rise to the year 2125).

22.6.7.11 The RoFRS plus climate change allowance follows a similar pattern of flooding to present day but is more extensive in some locations, particularly along the Horton Brook, Hithermoor Stream, Stanwell Moor Ditch, Holme Lodge Ditch and the section of the River Colne in the north of the FRSA.

Surface Water Flood Risk

22.6.7.12 The EA 'Risk of Flooding from Surface Water' ('RoFSW') map was updated in January 2025 as part of the wider NaFRA2 mapping update and shows where areas could be potentially susceptible to surface water flooding in an extreme rainfall event, during the present-day and during a future 2061-2125 (climate change) scenario.

22.6.7.13 **Figure 22-9** shows the present-day EA RoFSW mapping dataset within the FRSA.

22.6.7.14 The mapping assesses flooding resulting from severe rainfall events based on the following four scenarios:

- 'High' Risk: 1 in 30 (3.3%) or greater AP rainfall event;
- 'Medium' Risk: Between a 1 in 100 (1%) and 1 in 30 (3.3%) AP rainfall event;
- 'Low' Risk: Between 1 in 1000 (0.1%) and 1 in 100 (1%) AP rainfall event;
- 'Very Low' Risk: Lower than 1 in 1000 (0.1%) AP rainfall event.

22.6.7.15 **Figure 22.9** indicates that within the FRSA there are localised areas of surface water flooding scattered throughout. Surface water flood risk is more significant in the eastern half of the FRSA.

22.6.7.16 The RoFSW within the Site is scattered in localised areas throughout, with more significant flooding in the eastern half of the Site.

22.6.7.17 Mapped surface water flooding extents within the FRSA represent a number of potential surface water flood scenarios, such as isolated low spots in the Site topography resulting in ponding, linear features where surface water can produce flow paths – such as existing roads, channels and adjacent to watercourse – and existing underpasses which can also form low spots.

22.6.7.18 It should be noted that the surface water maps are generated using a generic methodology on a national scale, whereby rainfall is routed over a ground surface model. The analysis does not usually take account of any specific local information on below-ground drainage infrastructure and infiltration, although an adjustment is included in urban areas to account for the impact of sewerage and a standard infiltration allowance based on soil type. Consequently, the mapping provides a guide to potentially vulnerable areas based on the general topography of an area.

22.6.7.19 Future more detailed analysis of surface water flood risk will need to be allowed for to provide a more accurate representation of proposed risk and how to manage this through surface water drainage design. For example, the impact of the proposed design on existing surface water flow routes will need to be considered and surface water flood risk is to be modelled, and mitigation methods demonstrated in accordance with the latest surface water datasets.

22.6.7.20 In the climate change scenario ('Central' allowance, 2070s epoch – to year 2125), the RoFSW data indicates a similar pattern of flooding however flooding is far more extensive.

Groundwater Flood Risk

22.6.7.21 Given the presence of shallow groundwater within the underlying gravel deposits and the potential connectivity with watercourses across the area, there are areas susceptible to potential groundwater flooding as identified by the LLFAs within their local evidence base, such as the Slough SFRA. An area particularly at risk is in the western part of the Site in the Colne Valley around the Colne Brook and

Poyle. Groundwater flood risk areas will be reviewed and considered accordingly in the subsequent assessments as part of the DCO project.

Tidal Flood Risk

22.6.7.22 The Site is located inland and all watercourses located in the Scoping Boundary and the FRSA are entirely fluvial and not tidally influenced.

22.6.7.23 The River Crane discharges into the Thames just downstream of Richmond Lock, which is beyond its tidal extents at Teddington Lock. Therefore, for a small stretch of approximately 1.2km between passing under the A316 and joining the Thames, the River Crane is tidal. However, this is situated outside of the Site and the FRSA.

22.6.7.24 The River Colne discharges into the Thames upstream of Teddington Lock and upstream of the tidal limit, and therefore tidal flood risk is not considered for this watercourse.

22.6.7.25 Tidal flood risk has therefore not been considered further as it is confined to the lower reaches of the River Thames and River Crane and does not pose a risk to the Proposed Development, and the watercourses within the FRSA are not considered to be tidally influenced. Therefore, tidal flood risk has been scoped out of this assessment.

Risks of Flooding from Reservoirs and Other Artificial Sources

22.6.7.26 The EA reservoir maps show two flooding scenarios, a ‘dry-day’ and a ‘wet-day’. The ‘dry-day’ scenario predicts flooding that would occur if a dam or reservoir failed when rivers are at normal levels. The ‘wet day’ scenario predicts how much worse the flooding might be if a river is already experiencing an extreme natural flood.

22.6.7.27 The EA Reservoir Flood Map is displayed in **Figure 22-10** and indicates that the majority of the western half of the FRSA is at risk of reservoir flooding during a ‘dry – day’ scenario and during a ‘wet-day’ scenario. The eastern half of the FRSA is largely outside the reservoir flood extents, except for a reservoir flood flow route that runs through the eastern areas of the FRSA, which coincides with the River Crane and the tributaries of the River Crane.

22.6.7.28 Within the Site areas at risk of reservoir flooding are concentrated in the western and southern areas, which are at risk during both the ‘dry - day’ scenario and the ‘wet-day’ scenario. The majority of the eastern half of the Site is outside the reservoir flood extents, however there is a reservoir breach flood flow route that runs through the eastern areas of the Site, which is associated with the River Crane.

22.6.7.29 It should be emphasised that the risk of flooding from a reservoir breach is very low. The EA is the enforcement authority for the Reservoirs Act (1975), and there

is a mandatory requirement for all large, raised reservoirs (where greater than 25,000m^3 of water is stored above natural ground level) to be inspected and supervised by reservoir panel engineers. The reservoir owner has a duty of care under the Health and Safety at Work Act 1974 to ensure others are not placed at risk from their assets or actions.

22.6.7.30 Whilst the consequences of a reservoir breach could be severe, the probability of such an occurrence is considered to be very low.

22.6.7.31 The Grand Union Canal – Slough Arm is located in the north of the FRSA, north of the Great Western Main Line. A high-level review of topography indicates that the canal is predominantly not embanked and therefore not at risk of breaching. However, portions of the canal are raised where crossing the River Colne. In the unlikely event of canal breach, flood waters would flow south and into the Colne catchment, however canals are designed with control structures in place to regulate flows, so is considered at low risk of flooding.

Sewer Flood Risk

22.6.7.32 Drainage within the FRSA is predominantly managed and serviced by Thames Water Utilities Ltd. ('Thames Water') who provide surface, foul and combined sewer systems. The West London SFRA mapping shows historical sewer flooding for reported sewer flood incidents within a four-digit postcode area from 2017 records. Within the existing Heathrow Airport Terminals 1-3, there is evidence of sewer flooding recorded. Within the Hounslow Borough, there are three recorded areas with evidence of sewer flooding recorded within the FSRA; near Feltham, Hounslow West, and Cranford.

22.6.7.33 Additional records will be sought from the other relevant LLFAs, Thames Water and other sewerage undertakers in order to provide a more complete picture of sewer flood risk.

22.6.8 Protected Sites

22.6.8.1 Protected sites are identified and discussed in **Chapter 6: Biodiversity**. Some of those sites contain water-dependent habitats (e.g. reservoirs, lakes and wetlands). As identified within **Chapter 6: Biodiversity,** the protected sites identified and assessed will evolve as the design phases and technical assessment progress.

22.6.9 Water Resources

Abstractions and Discharges

22.6.9.1 Current records of groundwater, surface water abstractions (licensed and private water supply) and consented discharges within the GWSA are being sourced and this will be updated when the data is available.

22.6.9.2 A review of Magic maps indicates that there are three areas of Groundwater Source Protection Zones (SPZ) for public water supply within the GWSA. Two of

which are in the western part, around the areas of the unconfined Chalk outcrop with the third in the southwestern part and likely to be from the gravel aquifer. A smaller area of source zone is also mapped in the northern part.

22.6.10 Existing Heathrow Operational Water Supply, Foul Drainage, Run-off Attenuation

22.6.10.1 Water supply to the current Site is provided by Affinity Water while foul drainage is managed by Thames Water. Under Section 37 of the Water Industry Act 1991, the Water Company, in this case Affinity Water is required to develop and maintain a system of water supply such that it can have supplies available to persons demanding them, i.e., it is obliged to provide a point(s) of connection for new development at the nearest practicable point to the site of the same diameter main or greater. Any reinforcement works required must now be funded by the Water Company subsidised by way of the infrastructure charges levied on all new connections.

22.6.10.2 However, it is expected that capacity constraints associated with the Thames Water foul drainage network may mean that the additional wastewater flow generated by the airport expansion cannot be accommodated and an on-site Wastewater Treatments Works Facility may be the most feasible option. This will be confirmed in subsequent assessments and further engagement with Thames Water.

22.6.10.3 The surface water runoff from the existing airfield is managed across four catchments which are described in the following sections. Surface water from each catchment is attenuated and treated to remove pollutants, primarily in the form of de-icing chemicals and hydrocarbons before being discharged.

Eastern Catchment

22.6.10.4 Surface water from the eastern catchment is conveyed to the Eastern Balancing Reservoirs (EBR) before discharging to the River Crane. The EBR includes a facility for treating surface water in addition to providing attenuation. The EBR also acts as a water storage area to supply water for fire-fighting at the airport.

Southern Catchment

22.6.10.5 Surface water from the southern catchment is conveyed to the Southern Balancing Reservoir (SBR), also known as Clockhouse Lane Pit, before discharging to the Feltham Relief Sewer which eventually leads to the Thames. The network primarily drains by gravity, except when flows in the receiving sewer are high at which point a pump becomes operational. The SBR provides storage for surface water runoff from the airport.

22.6.10.6 Surface water from the Southern Catchment is tested for contamination before reaching the SBR and where it is found to be above the required threshold it is treated at the constructed wetlands at Mayfield Farm. The wetlands contain

balancing storage and reed beds which reduce contamination. Water is tested for a second time following treatment at the wetlands and if water is found to be below the contamination threshold it is conveyed to the SBR.

22.6.10.7 If following processing at the wetlands the contamination level is too high, water is conveyed to Spout Lane Lagoon which is a raised holding reservoir. From here contaminated flows are discharged into the Thames Water sewer network for treatment at the Mogden Sewage Works.

Western Catchment

22.6.10.8 Surface water from the western catchment, which contains Terminal 5, is routed to the Surface Water Outlet Tunnel (SWOT) which is a 3m diameter, 4km long, 15m deep tunnel. Water is tested for contamination here and routed either to the Spout Lane Lagoon if contaminated, or further along the SWOT and lifted into the SBR if not contaminated where it joins the runoff from the Southern Catchment.

North-Western Catchment

22.6.10.9 The surface water runoff from the nortwest catchment, which covers a relatively small area, is routed to the North-West Balancing Pond for attenuation before being discharged via a siphon eventually to the Wraysbury River. Surface water from the North-West Balancing Pond is used as part of the fire-fighting supply for the airport. As the catchment is largely unaffected by airside activities and associated sources of contamination, it is not necessary for this catchment to contain any additional treatment processes for de-icing or other airport contaminants.

22.7 Likely Significant Effects Requiring Assessment

22.7.1.1 This Section describes the likely significant effects of the Proposed Development that may require further assessment in relation to the Water Environment.

22.7.1.2 The potential receptors considered within this assessment are detailed in **Table 22-8** and these groupings may be revised as the assessment evolves and the likely significant effects requiring assessment are outlined in **Table 22-9**.

Table 22-8: Potential Water Environment Receptors

Receptor Group	Potential Receptors within Group
Horton Brook	Horton Brook. Including the lakes within Lakes_5 and any surface water abstractions, discharges and designated protected sites within the catchment. People, assets and infrastructure at risk of flooding from Horton Brook.

Receptor Group	Potential Receptors within Group
Colne Brook	Colne Brook including Poyle Channel, and Lakes_6. Surface water abstractions, discharges and designated protected sites within the catchment. People, assets and infrastructure at risk of flooding from Colne Brook.
Wraysbury River	Wraysbury River including Bigley Ditch and Lakes_1. Surface water abstractions, discharges and designated protected sites within the catchment. People, assets and infrastructure at risk of flooding from Wraysbury River.
River Colne (LSA)	The extent of the River Colne, including Bonehead Ditch, Stanwell Moor Ditch, Holme Lodge Ditch, Hithermoor Stream, Frays River, the River Pinn, located within the Colne (Confluence of Chess to River Thames) water body and the Surrey Ash water body. Excludes the water bodies covered in named receptors in this table. All surface water abstractions, discharges and designated protected sites within this catchment, excluding the water bodies covered in named receptors in this table. People, assets, and infrastructure at risk of flooding from the River Colne.
Twin Rivers	Duke of Northumberland's River and the Longford River, from their bifurcation with the River Colne to the Duke of Northumberland's River's confluence with the Crane and the Longford River's confluence with the Thames.
Portlane Brook	Portlane Brook including Felthamhill Brook. Surface water abstractions, discharges and designated protected sites within the catchment. People, assets and infrastructure at risk of flooding from Portlane Brook.
River Crane	River Crane including the Lower Duke of Northumberland's River, Frogs Ditch. Surface water abstractions, discharges and designated protected sites within the catchment. People, assets and infrastructure at risk of flooding from the River Crane.

Receptor Group	Potential Receptors within Group
Freshwater River Thames	River Thames reaches included in the Thames (Cookham to Egham), including County Ditch and County Ditch Staines (likely a reach of County Ditch) and Thames (Egham to Teddington). Surface water abstractions, discharges and designated protected sites within the catchment. People, assets and infrastructure at risk of flooding between Cookham and Teddington.
Tidal River Thames	The stretch of the tidal Thames immediately downstream of the confluence with the River Crane.
Upper River Colne	The catchment of the River Colne and its tributaries upstream of the River Colne (LSA) including the Grand Union Canal.
Reservoirs	All artificial reservoirs within the LSA.
Lower Thames Gravels	The full lateral extent of the Lower Thames Gravels groundwater body. Existing groundwater abstractions within the Lower Thames Gravels catchment area. People, assets, and critical infrastructure susceptible to groundwater flooding associated with the Lower Thames Gravels.
Bedrock Aquifers	Aquifers underlying the London Clay, including the Chalk and Lambeth Group Formations, within the lateral extent of the GWSA.
Groundwater abstractions and groundwater dependent terrestrial ecosystems	Existing licensed and private water supply abstractions within the GWSA. Protected sites and groundwater dependent terrestrial ecosystems with potential hydraulic connectivity to the Lower Thames Gravels. Lakes and ponds with potential connectivity to the Lower Thames Gravels
Local water supply	Affinity Water maintained assets around the boundaries of the airfield and Heathrow maintained assets on the airfield.
Foul drainage infrastructure	Thames Water maintained assets around the boundaries of the airfield and Heathrow maintained assets on the airfield.

22.7.2 Construction

22.7.2.1 This Section identifies the potential activities that could generate impacts, and the potential impacts that could occur as a result of the construction of the Proposed Development.

22.7.2.2 It is anticipated that the potential effects on the Water Environment during construction will be associated with:

- Establishment of site compounds, temporary haul roads and access tracks;
- River diversions;
- River crossings
- Dewatering activities;
- Water use during construction;
- Ground disturbance and sediment mobilisation;
- Deposition or spillage of soils, sediments, oils, fuels, lubricants or other construction chemicals; and
- Uncontrolled site run-off, including from soil stripping, soil stockpiling, excavations, de-watering, piling or drilling activities.

22.7.3 Operation

22.7.3.1 This Section identifies the potential activities that could generate impacts, and the potential impacts that could occur as a result of the operation of the Proposed Development.

22.7.3.2 It is anticipated that the potential effects on the Water Environment during operation will be associated with:

- Permanent changes in land use through new impermeable surfaces, diversion of watercourses, flood compensation/storage areas, river crossings, flood conveyance corridors, flood defence infrastructure and flood risk mitigation and resilience areas;
- Operation of drainage systems (including SuDS) associated with the Proposed Development, including from:
    - Airport runways, taxiways, aprons and remote stands;
    - Terminal buildings, satellite buildings and airside roads;
    - Highway, active travel, public transport, parking and servicing infrastructure;
    - Tunnels and bridges; and
    - Airport supporting development such as waste, recycling, cargo, maintenance and storage facilities.
- Increased water demand and discharge into during operation; and
- Increased pollutants associated with airport operations, including de-icing, firefighting refuelling and fuel storage.

22.7.4 Decommissioning

22.7.4.1 The Proposed Development is anticipated to form a permanent part of Heathrow Airport and therefore a project-wide decommissioning phase is not anticipated.

The majority of components are expected to remain in place throughout the operational life of the airport and would be subject to routine inspection, maintenance, refurbishment, renewal and replacement as necessary.

22.7.4.2 In accordance with the requirements of the Water Framework Directive (Regulation 19), the assessment will consider the full lifecycle of the Proposed Development. Where individual components are anticipated to have a finite design life and may require replacement, renewal or removal during operation, the potential implications for WFD receptors will be considered where relevant. No reasonably foreseeable airport-wide decommissioning activities have been identified, and any future decommissioning of Heathrow Airport would likely require separate planning consent and environmental assessment.

Table 22-9: Likely Significant Water Environment Effects

Activity	Effect	Receptor
Construction		
Changes in land use - river diversions	Changes to river channel routing would be required to accommodate the proposed runway, including the diversion and realignment of the Wraysbury River, River Colne, Duke of Northumberland's River and Longford River. New channel sections would be constructed, with a covered river corridor conveying the affected watercourses beneath the proposed runway. Channel diversion construction works located in the floodplain could impact on floodplain storage, and therefore compensatory flood storage may be required. These modifications may alter flood flow pathways and the extent of the fluvial floodplain, with potential implications for both upstream and downstream receptors.	Wraysbury River River Colne Twin Rivers
River crossing	Once the construction methodology of river crossings across the Colne Brook and Wraysbury River is known, impacts will be assessed. The construction of river crossings in the floodplain could result in a loss of existing floodplain storage and floodplain connectivity.	Colne Brook Wraysbury River River Colne Twin Rivers Lower Thames Gravels Groundwater body

Activity	Effect	Receptor
		Bedrock Aquifers
Dewatering during construction	Dewatering during construction, from activities (involving earthworks, foundation construction, borrow pits, river diversions) which could generate water that requires discharge to surface waters. Potential for increased flows from dewatering construction, which could be released to surface waters. River diversions and river crossings could require dewatering activities which if not appropriately mitigated could have impacts to downstream flow.	Horton Brook Colne Brook Wraysbury River River Colne (local) Twin Rivers Portlane Brook River Crane Freshwater River Thames Lower Thames Gravels Groundwater body Bedrock Aquifers
Construction sites and associated activities	Ground disturbance and sediment mobilisation associated with any diversion of flow. Deposition or spillage/leakage of fuels, lubricants or other chemicals required for construction. Runoff from construction areas including from soil stripping, soil stockpiling, excavations, piling or drilling activities. Ground disturbance in landfill areas could introduce pollutants to surface waters and groundwater bodies. Soil compaction due to the movement of heavy machinery has the potential to increase surface water run-off. Construction activities that have the potential to release dust and debris that may enter local waterbodies and drainage systems, as well as impact on shallow groundwater quality. Accidental spills or leakages of fuels, lubricants, and other chemicals used during construction and operation may infiltrate the superficial aquifer and adversely affect groundwater quality. Where hydraulic pathways are present or created, there is also potential for contaminants to migrate to deeper	Horton Brook Colne Brook Wraysbury River River Colne (local) Twin Rivers Portlane Brook River Crane Freshwater River Thames Lower Thames Gravels Groundwater body Bedrock Aquifers Existing groundwater abstractions and any groundwater dependent terrestrial ecosystems

Activity	Effect	Receptor
	groundwater units, including the Lambeth Group and Chalk aquifers. Effects to groundwater such as the use of coffer dams or sheet piling and the development of borrow pits, extraction of gravels. Changes to the permeability of subsurface fill material.	Note that groundwater quality effects are being considered in **Chapter 16: Ground Conditions**
Water use during construction	Increased discharge of foul drainage leading to a reduction of down pipe capacity and increasing the risk of sewer surcharge or flooding. Increase water demand from the Proposed Development effecting the supply in the local water resource zone.	Local water supply and foul drainage infrastructure
Increase in impermeable areas associated with construction	Temporary changes to flood risk from construction compounds, access laydown areas, temporary haulage routes and other associated access tracks causing a temporary increase in impermeable area and therefore surface water runoff during construction.	Wraysbury River River Colne Twin Rivers
Works within the construction area and storage of construction materials	Temporary changes to flood risk from works in the floodplain, including ground disturbances, causing a temporary reduction in floodplain storage during construction. Temporary disruption of flood conveyance routes if materials and stockpiles are stored within the floodplain or existing drainage networks are disrupted or severed.	Horton Brook Colne Brook Wraysbury River River Colne (local) Twin Rivers Portlane Brook River Crane
Changes to groundwater levels, flow regime and baseflow	Potential changes to downstream flow regimes may occur where watercourses are diverted, if flows are not reinstated and distributed in a manner consistent with baseline conditions. This could result in alterations to baseflow contributions and the natural hydrological characteristics of affected reaches.	Wraysbury River River Colne Twin Rivers Thames Colne Brook

Activity	Effect	Receptor
	Reductions in groundwater flows/levels has the potential to reduce flows to surface water receptors. It also has the potential to impact on groundwater resource within the GWSA	Lower Thames Gravels Groundwater Body Bedrock Aquifers
Subsurface construction works	Construction activities, including the installation of cofferdams or sheet piling, tunnelling works, dewatering operations, and gravel extraction, may alter local groundwater flow patterns and groundwater levels. Additional changes may arise from variations in the permeability of subsurface fill materials used during construction. It may also lead to potential increase in groundwater flooding	Lower Thames Gravels Groundwater Body Bedrock aquifers
Operation		
Changes in land use including river diversions	Changes to watercourses cross-sectional capacity due to culverting and watercourse realignments. This could result in changes to deposition and erosion processes over time. Alterations to existing channel alignments, including shortening, lengthening, or straightening of flow paths, together with changes to channel cross-sectional capacity, may affect flow conveyance and hydraulic conditions. The transfer of water between distinct surface water bodies, resulting from channel diversions and the consolidation of multiple channels, may influence water quality characteristics. In addition, changes to in-channel processes associated with the conveyance of flows through a covered river corridor, together with alterations in dilution capacity arising from changes in baseflow, could affect overall surface water quality. Channel diversions and realignments could result in the loss of existing floodplain storage, and therefore compensatory flood storage may be required. These modifications may alter	Wraysbury River River Colne (local) Twin Rivers Colne Brook Portlane Brook River Crane Freshwater River Thames Lower Thames Gravels Groundwater body Existing groundwater abstractions and any groundwater dependent terrestrial ecosystems.

Activity	Effect	Receptor
	flood flow pathways and the extent of the fluvial floodplain, with potential implications for both upstream and downstream receptors. The covered river corridor may restrict flood levels and impact floodplain connection within these areas. Increased areas of impermeable surfaces such as taxiways, buildings, runways and other areas of hardstanding, resulting in associated increased runoff. Reduced and/or localised displacement of recharge to the superficial gravel aquifer may occur as a result of increased impermeable surface coverage and the interception of rainfall runoff by drainage systems, with flows subsequently discharged to surface water bodies. Potential effects on aquatic and riparian habitats and WFD quality elements as a result of modified channel morphology, habitat conditions and watercourse function. Potential for altered flow regime and hydromorphological processes associated with the diversions and combinations of watercourses, downstream of any altered reaches.	
River Crossings	New river crossings, across the Colne Brook and the Wraysbury River, could result in a loss of existing floodplain storage and floodplain connectivity. If there is not a suitable freeboard provided for the river crossings there is the potential to impact flow routes.	Colne Brook Wraysbury River Colne Twin Rivers Lower Thames Gravels Groundwater body Bedrock Aquifers
Operational activities of the airport – including	Creation of new impermeable surfaces including airport runways, taxiways, aprons, remote stands and other associated buildings,	Colne Brook Wraysbury River

Activity	Effect	Receptor
de-icing and firefighting activities	tunnels and bridges, highways and parking and servicing infrastructure leading to increase runoff. Increased atmospheric deposition of pollutants to surface waters through changes to air quality associated with emissions from aircraft and land based vehicular traffic. Accidental spillage/leakage of fuels, lubricants or other chemicals used during operation including de-icing (such as glycol), firefighting (such as Polyfluoroalkyl Substances (PFAS)), refuelling and fuel storage.	River Colne (local) Twin Rivers Portlane Brook River Crane Freshwater River Thames Tidal River Thames Reservoirs Lower Thames Gravels Groundwater body.
Water use during operation	Increased discharge of foul drainage leading to a reduction of down pipe capacity and increasing the frequency or risk of sewer flooding if network upgrades are not implemented. Increase water demand from the Proposed Development effecting the supply in the local water resource zone.	Local water supply and foul drainage infrastructure
Operation of drainage system (including SuDS)	Potential for runoff to be collected within the Proposed Development drainage network and discharged to a different catchment. For example, rainfall originating within the River Crane catchment could be conveyed and discharged into the River Colne catchment, altering the natural distribution of surface water flows. This may result in reduced flows to surface water receptors that are sustained by groundwater contributions Locally reduced and/or displaced recharge to the superficial gravel aquifers due to increased impermeable surfaces and collection of rainfall runoff in drainage systems.	Wraysbury River River Colne (local) Twin Rivers Portlane Brook River Crane Lower Thames Gravels Groundwater body. Local water supply and foul drainage infrastructure. Existing groundwater abstractions and any groundwater dependent

Activity	Effect	Receptor
		terrestrial ecosystems.
Introduction of subsurface infrastructure	New or relocated permanent structures, including landfill sites, basements, tunnels, pipelines, and drainage infrastructure, may affect subsurface groundwater flow regimes and groundwater movement and potential impact on the underlying groundwater quality.	Lower Thames Gravels Groundwater Body Bedrock aquifers Existing groundwater abstractions and any groundwater dependent terrestrial ecosystems. Note that groundwater quality effects are being considered in **Chapter 16: Ground Conditions**
Operation of an on-site Wastewater Treatment works (if required)	Where insufficient capacity exists within the receiving foul sewer network, foul flows may be treated at an on-site WwTW prior to discharge to an adjacent watercourse. This would introduce a new discharge of treated effluent, with the potential to alter flow regimes and influence surface water quality, depending on discharge volumes, receiving water characteristics, and treatment performance.	River Colne
Treated effluent discharge	Discharge of treated wastewater to a receiving watercourse may affect water quality characteristics and nutrient loading, although treatment processes would be designed to meet EA discharge standards.	River Colne
Decommissioning		
The Proposed Development is anticipated to form a permanent part of Heathrow Airport's infrastructure and operation. However, in the event of decommissioning, effects are not considered to be any greater than those arising from construction and have been		

Activity	Effect	Receptor
adequately addressed through the construction assessment. Therefore, they have been scoped out from the assessment. Additionally any decommissioning would likely require its own planning consent and a separate assessment.		

22.8 Effects Not Requiring Assessment

22.8.1.1 Potential effects to be scoped out of the Water Environment assessment are shown in **Table 22-10**. At the current stage of the Proposed Development, no additional effects have been identified that can be scoped out of the assessment. However, certain effects are only applicable to a subset of receptors (see **Section 22.7**).

Table 22-10: Potential Effects to be Scoped Out of the Water Environment Assessment

Activity	Effect	Receptor	Justification for scoping out
All activities in **Section 22.7**	Tidal flood risk	All	No risk of tidal flooding to the Proposed Development has been identified, and the Proposed Development is not expected to increase tidal flood risk elsewhere.

22.9 Proposed Approach to Assessment

22.9.1 EIA Assessment Methodology

22.9.1.1 The study areas are set out in **Section 22.4**22.4. These will be kept under review as the design and consultation process progresses and may evolve as appropriate in consultation with stakeholders.

22.9.1.2 The approach to assessment of Water Environment features will be drawn from the baseline conditions at the Proposed Development as outlined in **Section 22.6.** Effects on the Water Environment are determined through consideration of the interaction between importance of the affected receptor and the magnitude of the impact. The magnitude of likely impacts arising from the Proposed Development will be assessed against receptor importance using available quantitative data provided by the Sub-discipline Specific Methodologies outlined in **Section 22.9.3**

where appropriate, supported by qualitative assessment and professional judgement where required.

22.9.1.3 **Table 22-10** presents the typical examples used in assigning the importance of Water Environment receptors, noting that an additional Importance classification of 'Very High' is given for this topic and there is no 'Negligible' importance classification.

22.9.1.4 **Table 22-11** presents the typical examples used as a guide when assessing the magnitude of impact on Water Environment receptors.

22.9.1.5 The importance and magnitude criteria will be kept under review as the design and consultation process progresses and may evolve as appropriate as assessment methods are refined and/or in consultation with stakeholders.

22.9.2 Assessment Years

22.9.2.1 The water environment assessment will be divided into a number of assessment years covering the current baseline, future baseline (without the DCO Project), enabling works, construction phases (including pre- and post-river diversions), operational phase and decommissioning phase of the development.

22.9.2.2 The current baseline for the water environment will be determined from the desk study, site investigation data and modelling.

22.9.2.3 The future baseline will consider changes that may occur in the absence of the DCO Project in the future. This may comprise changes to the water regime predicted to occur as a result of climate change or development taken forward in the absence of the DCO Project.

22.9.2.4 As the construction phase progresses, baseline conditions will continue to evolve. The water environment in particular may be impacted by; proposed river diversions, major earthworks, runway construction and construction of new highways. The assessment of the water environment will need to consider potential changes to baseline conditions, during enabling works and the construction phase and apply appropriate measures.

22.9.2.5 Significant water environmental effects during the operation phase, will be assumed to apply from the year of opening. Consideration will be given for potential changes to operation over time and changes to the future baseline.

22.9.2.6 The Proposed Development is anticipated to form a permanent part of Heathrow Airport and therefore a project-wide decommissioning phase is not anticipated. No reasonably foreseeable airport-wide decommissioning activities have been identified, and any future decommissioning of Heathrow Airport would likely require separate planning consent and environmental assessment.

Table 22-11: Typical Examples of Receptor Importance for Water Environment

Importance	Criteria	Typical examples
Very High	Attribute with a very high quality and rarity with national or international importance or recognition and limited potential for substitution. Attribute highly sensitive to change.	• WFD water body achieving 'High' ecological status or potential for ecology or hydromorphology. • Protected/designated under International/European Union legislation such as a Special Area of Conservation (SAC), Special Protected Area (SPA) and/or Ramsar site. Smaller (non-WFD classified) surface water if part of a protected site. Designated Bathing Waters and/or Shellfish Waters. • Smaller (non-WFD classified) surface waters in stable equilibrium with diverse, natural morphological features (such as pools, riffles and bars). Diversity in morphological processes typically reflects unconstrained natural function, with limited or no pressures on hydrological regime and/or hydromorphology. • Principal bedrock and superficial aquifers providing a regionally important resource such as licensed abstractions of >1,000 metres cubed (m3)/day. Groundwater associated with an SPZ1 (Inner Protection Zone). • Groundwater supports GWDTE with a high or moderate groundwater dependence in a Ramsar, SAC, SPA and/or Site of Special Scientific Interest (SSSI). • SPZ1 (Inner Protection Zone). Designated DWPAs and/or Drinking Water Safeguard Zones. Water supply resource or infrastructure extensively exploited for public, private domestic and/or agricultural and/or industrial use. • NPPF flood risk vulnerability "Essential infrastructure" or "highly vulnerable" development.
High	Attribute with a high importance, high quality and rarity, local scale and limited potential for substitution.	• WFD water body achieving High or Good status or potential for ecology or hydromorphology or with objectives to achieve 'Good' ecological status or potential. • Contains species protected under International/ European Union legislation but is not part of a protected site. Smaller (non-WFD classified) surface waters if protected species are present.

Importance	Criteria	Typical examples
	Attribute sensitive to change.	• Smaller (non-WFD) surface waters achieving near-stable equilibrium with a range of natural morphological features (such as pools, riffles and bars). Diversity in morphological processes reflects relatively unconstrained natural function, with few pressures on hydrological regime and/or hydromorphology. • Principal Aquifer providing locally important resource such as strata supporting licensed abstractions of 500-1,000 m3/day. Groundwater associated with an SPZ2 (Outer Protection Zone). • Groundwater supports GWDTE with a low groundwater dependence in a Ramsar, SAC, SPAs and/or SSSIs. • NPPF Flood Risk Vulnerability Classification “More Vulnerable”. • SPZ2 (Outer Protection Zone). Exploitation of surface or groundwater resource is not extensive.
Medium	Attribute with a moderate quality and rarity, local scale and limited potential for substitution. Attribute reasonably tolerant of change.	• WFD water body not achieving Good status or potential and with no objectives to read Good status or potential for ecology or hydromorphology, due to designation as a AWB or HMWB. Smaller surface waters with a few pressures such as modifications or pollutant inputs from discharges and/or surrounding land use. • Smaller (non-WFD classified) surface waters with a more limited range of natural morphological features and with some historical or existing pressures on hydrological regime and/or hydromorphology, may be attempting to recover to a natural equilibrium. • Secondary Aquifer providing water for agricultural or industrial use with limited connection to surface water such as strata supporting water abstractions of 50-499m^3/day. Groundwater associated with an SPZ3 (Total catchment). • GWDTE with a high or moderate groundwater dependence but not within a designated site or of low groundwater dependence with sites such as Sites of Nature Conservation Interest (SNCIs) or LNRs. • NPPF Flood Risk Vulnerability Classification “Less Vulnerable”.
Low	Attribute with a low quality and rarity,	• Non-WFD water bodies. May have a large number of pressures such as modifications or pollutant inputs from licensed discharges and/or surrounding land-use. May show

Importance	Criteria	Typical examples
	local scale and limited potential for substitution. Attribute tolerant of modest to substantial change.	extensive pressures on hydrological regime/hydromorphology with no evidence of diverse processes and active recovery to a natural equilibrium. • Generally unproductive strata such as strata supporting licensed water abstractions of >20m^3/day and <50m^3/day or unlicensed abstractions of <20m^3/day. • Areas with no known past or present exploitation of surface or groundwater as a resource. • NPPF Flood Risk Vulnerability Classification “Water Compatible”.

Table 22-12: Typical examples of magnitude of impacts for Water Environment

Magnitude	Criteria	Typical examples
High	Results in the loss of attribute and/ or quality and integrity of the attribute; severe damage to key characteristics, features or elements.	Works that are likely to risk a significant shift from baseline conditions including: • Major construction works in-water and/or adjacent to surface water. • Significant cumulative impacts on a surface water from multiple construction/operational activities in its catchment. • Operational activities such as a large number of new discharges of pollutants and/or permanent loss of or extensive changes to existing hydrological or morphological characteristics and processes from major changes to permeable or impermeable area in a catchment, major bed and bank modifications and major impoundments. • High risk of pollution from routine runoff or spillages. • Long-term or permanent adverse impacts on protected aquatic species/habitats. • Long-term or permanent major change to aquifer(s). • Loss of, or extensive change to GWDTE or baseflow contribution to protected surface waterbodies. • Fundamental changes to the regional hydrological regime at catchment scale. • Change in peak flood level (+>100mm). • Fundamental changes in volume and/or peak discharge of surface water runoff from the Proposed Development.

Magnitude	Criteria	Typical examples
		• Fundamental changes to flow conveyance and floodplain storage. • Long-term disruption or permanent loss or change to quantity or quality of a water resources.
Medium	Results in effect on integrity of attribute, or loss of part of attribute; partial loss of/damage to key characteristics, features or elements.	Works that are likely to risk a shift from baseline conditions including: • Construction works in-water and/or adjacent to surface water. • Operational activities such as new discharges of pollutants or permanent modifications to the hydrology or hydromorphology of a surface water from changes to existing hydrological or morphological characteristics and processes including changes in permeable/impermeable area in a catchment, bed and bank modifications and impoundments. • Medium risk of pollution from routine runoff or spillages. • Risk of temporary adverse impacts of protected aquatic species/habitats. • Temporary or long-term change to groundwater aquifers. • Partial loss of the integrity of GWDTE. • Moderate changes to the local hydrological regime. • Change in peak flood level (+>50mm) • Moderate changes in volume and/or peak discharge of surface water runoff from the Proposed Development. • Moderate changes to flow conveyance and floodplain storage. • Temporary disruption or deterioration in quantity or quality of a water resource.
Low	Results in some measurable changes in attributes quality or vulnerability	Works that are likely to risk a minor shift from baseline conditions including: • Minor construction works adjacent to a surface water or within the catchment • Operational activities such as a single new or modified discharge of pollutants and/or minor changes to existing hydrological or morphological characteristics and processes, including minor changes in permeable/impermeable area in a catchment minor bed and bank modifications. • Low risk of pollution from routine runoff or spillages. • Minor effects on an aquifer, GWDTEs, abstractions. • Some noticeable changes to the local hydrological regime.

Magnitude	Criteria	Typical examples
		• Change in peak flood level (+>10mm). • Some noticeable changes in volume and/or peak discharge of surface water runoff from the Proposed Development. • Some noticeable changes to flow conveyance and floodplain storage
Very Low	Results in either no effect on attribute or effect of insufficient magnitude to affect the use or integrity.	• No loss or alteration of characteristic, features of elements; no measurable, discernible impact.

22.9.2.7 To ensure consistency across topics, a matrix has been adopted to present judgements made on the significance of an effect, noting the addition of a Very High importance and absence of a Negligible importance category represents an adjustment to the matrix provided in **Chapter 4: Approach to EIA**. Where more than one option is given a single significance of effect will be assigned based on professional judgement. The terminology for significance of effects is outlined in **Table 22-13** below.

Table 22-13: Effect Significance Matrix

	Importance			
Magnitude	Very High	High	Medium	Low
High	Substantial Adverse / Beneficial	Substantial Adverse / Beneficial	Major Adverse / Beneficial	Moderate Adverse / Beneficial
Medium	Substantial or Major Adverse / Beneficial	Major Adverse / Beneficial	Moderate Adverse / Beneficial	Minor Adverse / Beneficial
Low	Major or Moderate Adverse / Beneficial	Moderate Adverse / Beneficial	Minor Adverse / Beneficial	Negligible
Very Low	Moderate or Minor Adverse / Beneficial	Minor Adverse / Beneficial	Negligible	Negligible

22.9.2.8 For the purposes of the ES, substantial, major and moderate effects will be considered to be significant, whilst minor and negligible effects will be considered to be not significant. The mitigation hierarchy will be applied to all impacts scoped into the ES to ensure that potential effects are avoided, minimised, restored or offset.

22.9.3 Sub-Discipline-Specific Methodologies

Surface Water Quality Assessment

22.9.3.1 Any new or modified discharges from the Proposed Development to watercourses will require an assessment of potential effects on surface water quality, the method of which is dependent on the source and risk associated with the discharge.

22.9.3.2 Components of the Proposed Development, such as the roof drainage and building footprints of the terminal and satellite buildings (T6a & T6b), airside support buildings, offices, cargo, maintenance and support buildings, commercial, hotel, leisure and light industrial areas, local roads and parking and servicing infrastructure are considered to be low to medium risk to surface water quality. The assessment of effects on surface water quality from discharges of surface water runoff from these areas will be undertaken using the Simple Index Approach as detailed in the CIRIA SuDS Manual (C753)[24].

22.9.3.3 The assessment of effects on surface water quality from discharges of surface water runoff from higher-risk major highway infrastructure such as motorways and trunk roads with an Annual Average Daily Traffic (AADT) of >10,000 vehicles per day (vpd) will be undertaken in accordance with DMRB LA 113[19]. This includes the simple assessment of the effects of routine runoff and spillage risk using the National Highways (formerly Highways England) Water Risk Assessment Tool (HEWRAT)[74] (currently version 2.0.4), which is specifically designed for the assessment of the impacts on the water quality of surface watercourses receiving runoff from highways infrastructure. Should the simple assessment of the effects of routine runoff indicate any risk to the water quality of surface waters, the detailed assessment using the UKTAG Rivers and Lakes Metal Bioavailability Assessment Tool (M-BAT) (currently available as Bio-met v6.0)[75] will be undertaken.

22.9.3.4 The approach to foul water treatment and disposal, which includes the management of runoff from higher-risk activities from airport operation such as de-icing activities, is currently in development. Thames Water have been engaged in relation to the capacity of the existing foul sewer system serving Heathrow and specific limits/parameters for the quality of discharged water, including for discharge of runoff from de-icing pads during the operation phase. As such, the specific method for assessing the effect of any foul water discharges to surface waters (such as the River Colne) are yet to be determined. Should the existing foul sewer system have insufficient capacity, foul water flows may be treated at an on-site WwTW prior to discharge to an adjacent watercourse. If this is required, treatment processes would align with EA discharge standards and a suitable assessment method to demonstrate compliance (such as the use of the EA's RQP-MPER (River Quality Planning-Metals Permitting) tool) agreed in consultation with the EA.

Groundwater Impact Assessment

22.9.3.5 A groundwater impact assessment will be undertaken to evaluate the potential effects of the Proposed Development on groundwater receptors during both proposed construction and operational phases. The assessment will consider the

[74] National Highways, National Highways Water Risk Assessment Tool, 2019. Available at: https://downloads.gdms.assetia.cloud/
[75] ARCHE Consulting and wca environment, Bio-met: Bioavailability of metals and the Water Framework Directive. Available at: https://bio-met.net/

effectiveness of the primary (embedded) design measures, together with any additional secondary and tertiary mitigation measures proposed.

22.9.3.6 The assessment will be informed by the findings of a numerical groundwater model for the underlying gravel aquifer. The proposed approach to the numerical groundwater assessment is provided in **Appendix 22.1**.

22.9.3.7 It is expected that the majority of the Proposed Development components will remain in place for the majority of the operational life of the Proposed Development and potential effects associated with decommissioning of some components would be no greater than those arising during construction and operation, therefore no additional consideration is included in this assessment due to decommissioning.

22.9.3.8 Risks to controlled waters, including groundwater, from mobilisation of existing contamination in the ground, will be assessed will be covered as part of **Chapter 16: Ground Conditions**, please refer to the relevant chapter for the detailed method statement.

Water Framework Directive Assessment

22.9.3.9 Activities that have the potential to affect a WFD water body should undertake a WFD assessment to demonstrate that proposals will not result in a deterioration in status (or potential) or prevent the water body from meeting Good status (or potential) in the future. Specifically, the EA (as the competent authority for WFD/WER) must consider whether proposals for new developments and schemes have the potential to:

- Cause a deterioration of a water body from its current status or potential
- Prevent future attainment of Good status, or potential where not already achieved

22.9.3.10 If the tests above cannot be satisfied, the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 sets out conditions and specific situations that permit derogations. The Proposed Development will seek to avoid deterioration of WFD quality elements where practicable. The need for any derogation under the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 will be determined through the WFD assessment process.

22.9.3.11 Step 1: Screening consists of an initial screening exercise to identify relevant water bodies in the proposed development area. Water bodies will be selected for inclusion in the early stages of the compliance assessment using the following criteria, with reference to the 2022 Thames RBMP:

- All surface water bodies that could potentially be directly impacted by the Proposed Development;
- Any surface water bodies that have direct connectivity (e.g. upstream and downstream) that could potentially be affected by the Proposed Development; and

- Any groundwater bodies that underlie the Proposed Development.

22.9.3.12 Step 2: Scoping identifies whether there is potential for deterioration in water body status or failure to comply with WFD objectives for any of the water bodies identified in Step 1. This stage considers potential non-temporary impacts and impacts on critical or sensitive habitats for each water body and each activity.

22.9.3.13 Water bodies and activities can be scoped out of further assessment if it can be satisfactorily demonstrated that there will be no impacts. If impacts are predicted, it will be necessary to undertake a detailed compliance assessment. The Step 2 assessment considers the potential for each activity planned as part of the Proposed Development to affect each quality element in turn, based on a series of trigger questions for the quality elements that are applicable in each type of water body.

22.9.3.14 Step 3: Impact Assessment will be undertaken if the answer to one or more of scoping questions 1-4 is 'Yes', but only for those quality elements that could potentially be impacted. Conversely, if the answer to a scoping question is 'No' or enough information can be provided at this stage to scope the issue out, the quality element is scoped out of further assessment.

22.9.3.15 The Step 3 assessment determines whether the activities and/or project components that have been put forward from the Step 2 scoping assessment will cause deterioration and whether this deterioration will have a significant non-temporary effect on the status of one or more WFD quality elements at water body level. If deterioration in the status of one or more quality elements is predicted as a result of any proposed project activities when all possible mitigation has been applied, the Proposed Development will be considered to be non-compliant with the requirements of the WFD and it will be necessary to apply for an exemption under the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 of the WFD in order for the non-compliant activities to proceed.

Flood Risk Assessment

22.9.3.16 In order to fully assess the flood risk to the Proposed Development, a site-specific FRA is to be produced that will inform the ES chapter. The scope of this FRA will include:

- Review of relevant planning policy and available Strategic Flood Risk Assessments
- Collection and review of current and historic flood risk information

22.9.3.17 Assessment of climate change impacts assessed against the design event of 1 in 100 annual probability event +73% climate change (upper end climate change allowance for 2080's epoch). Further testing to the Credible Maximum climate change scenario may be required, subject to confirmation.

- Proposals for flood mitigation measures; and
- Identification of any off-site and residual risks.

22.9.3.18 The assessment will be carried out with due regard to current and relevant legislation and guidance.

22.9.3.19 The FRA will also consider the potential increase in flood risk due to climate change in relation to flood risk and drainage over the lifetime of the Proposed Development.

22.9.3.20 If flood compensation is required, an outline design of the floodplain storage compensation in line with NPPF requirements will be provided, utilising the relevant hydraulic modelling for the affected area.

Hydraulic Modelling

22.9.3.21 The existing channels of the River Colne, Wraysbury River, Duke of Northumberland's River and Longford River are impacted by the new airport proposals. To minimise the impacts to watercourses as much as possible, rivers will be diverted and some river sections will be culverted. The river diversion proposal involves combining the River Colne and Wraysbury River into one channel, and the Duke of Northumberland and Longford River (Twin Rivers) into another channel. This allows the management of hydraulically separated bed levels between the mainly engineered channels of the Twin Rivers (higher bed levels), and the more natural Colne and Wraysbury watercourses. River diversions and the introduction of any new channels will ensure that the proposed works do not detrimentally impact the connectivity of the watercourse network with the wider environment.

22.9.3.22 Prior to the selection of the preferred solution a number of previous strategies have been reviewed to manage the impacts to the channels. In general, all options utilise an approach to divert the watercourses to the west of the airport expansion. These include the creation of new channels, watercourse diversions, combining watercourses, new structures and culverts.

22.9.3.23 The key design principles of the river diversion proposal are provided below:

- The river diversions facilitate the distribution of flow past the Site and back into their respective watercourses.
- The diversion channel proposals aim to maintain the existing flows within the watercourse system.
- The four watercourses will be combined into two channels due to spatial constraints introduced by the proposals. These constraints mean that sections of the watercourses may need to be culverted.
- The Colne/Wraysbury diversion channel is intended to be retained as natural as possible and will contain the required flows in order to prevent any flooding to the airport or the M25 and without resulting in any detrimental impacts offsite.
- The Twin Rivers diversion channel is likely to be less natural, as the existing channel is heavily engineered with very shallow bed gradients and controlled flows. There is not a large difference between existing bed levels upstream and downstream of the airport. The diversion will add additional length to this

channel and therefore the gradient of the channel will be very low, with an almost flat water-surface profile and very low velocities.
- The Twin rivers diversion channel will be sufficiently large to introduce plated ledges/shelves along the banks, and river restoration techniques will be used to provide some ecological mitigation for the engineered nature of the channel.
- Some existing floodplain along the Colne will be lost as a result of the diversion however, this is intended to be contained within the river diversion corridor.

22.9.3.24 To appraise the proposed river diversion option, initial high-level testing of the proposed diversion channels has been undertaken using the 1-d hydraulic modelling software, Flood Modeller, this has been utilised to indicate the potential sizes of the two channels and identify any pinch points within the diversion corridor.

22.9.3.25 This utilises data from the existing Lower Colne model (EA 2012 version with some updates by Haskoning in 2019). However, the 2012 model is currently in the process of being updated by the EA.

22.9.3.26 The EA has indicated that they would require the proposed strategy to be tested and appraised using the updated model, which is expected to be released in Autumn 2026. The receipt of the updated model is therefore critical to the appraisal of the proposals.

22.9.3.27 As the updated model is a strategic hydraulic model, the EA has also advised that amendments will be required to convert it into a site-specific model, in order to assess any possible impacts of the airport expansion proposals. These amendments would need to be undertaken before any post development scenarios could be modelled.

22.9.3.28 Once the EA updated River Colne has been released, and required site-specific updates carried out, this will be used to appraise the diversion design and the requirements for the wider works (i.e. flood compensation).

Surface Water Drainage Strategy

22.9.3.29 A Surface Water Drainage Strategy will be prepared setting out the proposed approach to managing surface water runoff during the operational phase of the Proposed Development. The strategy will identify the measures required to manage surface water discharge rates and volumes, including allowance for climate change, and will demonstrate how runoff will be attenuated, conveyed and discharged in a controlled manner to avoid increasing flood risk on-site or elsewhere. The strategy will also set out the proposed treatment approach for surface water runoff, including the use of appropriate sustainable drainage systems, pollution prevention measures and maintenance requirements, to provide sufficient water quality treatment prior to discharge.

22.9.4 Additional Baseline Information Required

22.9.4.1 The baseline information in the ES will be supplemented from further desk-based data collation and further baseline studies including:

- Water quality monitoring surveys consisting of bimonthly (fortnightly) surveying over 12 months over 21 sites to inform the baseline picture for approximately 130 determinants (August 2026 to August 2027);
- Any available freshwater and groundwater quality routine monitoring data from the EA associated with the existing operation of the Heathrow Airport for the last 5 years covering key aquatic surface and groundwater bodies, including balancing ponds, rivers and groundwater sources.
- Any consultation/correspondence with the EA relating to water quality monitoring requirements for the existing operation of Heathrow Airport, including (but not limited to) discussions and agreements on monitoring duration, location, determinants etc.
- Any available water quality modelling outputs from the EA.
- Hydromorphology survey and associated reporting to characterise the existing condition and functioning of relevant watercourses (surveying to be completed by August 2027);
- A WFD assessment will present the effects associated with the Proposed Development on the objectives of the WFD for relevant water bodies in the area. The assessment will assess construction and operational phase impacts which are identified as having the potential to compromise WFD objectives. The assessment will also contain information on any proposed mitigation measures;
- Additional ground investigation, groundwater level monitoring and groundwater quality monitoring;
- Updated design information on the Proposed Development as it evolves, which may also inform the need for the collection of additional baseline information;
- Updated baseline Lower Colne hydraulic model;
- Structure operation parameters; and
- Topographic survey to inform the hydraulic modelling.

22.9.5 Cumulative Effects

22.9.5.1 **Chapter 24: Approach to Cumulative and In-Combination Effects** presents the approach to assessing these effects throughout the report. Cumulative effects are defined as the combined effects of other development scheme(s) which may interact cumulatively with the Proposed Development.

22.9.5.2 Cumulative effects can either be additive/incremental (i.e. the spatial and temporal proximity of multiple activities or developments may result in significant effect) and/or associated/connected (i.e. different elements of a single development that may be authorised under different consent processes).

22.9.5.3 In accordance with the EIA Regulations 2017, the EIA will assess the direct and indirect cumulative effects arising from the interaction of impacts generated by the Proposed Development, together with the effects of other developments in the

surrounding area. The objective is to identify potential cumulative effects arising from the Proposed Development alone or in combination with other developments. This includes determining whether impacts that are individually not significant could, when considered collectively, result in a significant direct or indirect effect that may require mitigation.

22.9.5.4 In relation to other developments, best practice requires cumulative effects assessments to consider only those developments that are reasonably foreseeable, typically including developments that are under construction or have received planning permission. The assessment can only be undertaken using the information available at the time it is prepared.

22.9.5.5 The assessment will focus on developments with the potential to give rise to significant cumulative effects. An initial review of cumulative developments has therefore been undertaken to identify those developments that, by virtue of their proximity, scale or nature, are most likely to interact with the Proposed Development. Consideration has also been given to the geographical extent over which cumulative effects may occur. For completeness and robustness, applications currently under consideration that may be determined before or during the determination of the Proposed Development have also been included.

22.9.5.6 The other developments, along with the Proposed Development, would be subject to compliance with local and national policy. Under these policies and legislations, the developments are required to demonstrate (amongst other matters) nil detriment in terms of water quality and Water Framework Directive (WFD) status/potential and no increased flood risk to the Proposed Development or elsewhere. As a result, significant cumulative effects are not anticipated at this stage, but will be tested throughout detailed assessment.

22.9.6 In-Combination Effects

22.9.6.1 In-combination effects are those that could occur to a single receptor from multiple impacts resulting from the Proposed Development. The overall effect on the receptor could be disproportionately greater than identified by the individual environmental assessment topics.

22.9.6.2 In-combination effects will be assessed by considering the interaction between climate change and other environmental topics as the Proposed Development evolves. Potential significant effects may arise from the combined influence of climate change and coastal processes, as well as climate change and water resources and flood risk. Potential in- combination effects may occur with **Chapter 6: Biodiversity**, **Chapter 16: Ground Conditions** and **Chapter 9: Climate Change** and therefore this Chapter should be read in conjunction with the referenced chapters.

Description of Likely In-Combination Effects

Biodiversity and Aquatic Ecology

22.9.6.3 Changes to hydrological and hydraulic conditions, surface water quality, groundwater levels or flows may interact with ecological receptors. Such changes have the potential to affect aquatic and riparian habitats, fish populations, ecological connectivity, and the condition of water-dependent habitats. Potential effects on aquatic and riparian habitats will therefore be considered alongside the findings within Biodiversity's ongoing assessments through the EIA process.

Ground Conditions and Groundwater

22.9.6.4 Construction activities, drainage infrastructure, and any associated ground remediation measures may interact with groundwater systems. These activities could create or modify contaminant pathways, potentially resulting in the mobilisation of existing contaminants and effects on groundwater quality, groundwater-dependent ecosystems, and other groundwater receptors.

Climate Change

22.9.6.5 Future climate change may increase the magnitude and frequency of hydrological extremes, including higher peak flows and prolonged periods of low flow. In combination with the Proposed Development, climate change has the potential to influence flood risk, erosion processes, water availability, and the resilience of aquatic habitats and ecological receptors.

Construction Activities and Drainage

22.9.6.6 Temporary construction works and the implementation of drainage measures may alter surface water flow pathways, runoff characteristics, and infiltration rates. In combination with existing site conditions, these changes may affect surface water quality, groundwater recharge, flood risk, and the wider water environment.

Water Quality

22.9.6.7 Construction and operational activities may influence surface water and groundwater quality through increased sediment mobilisation, pollutant runoff, or disturbance of contaminated materials. In combination with ecological and groundwater receptors, any deterioration in water quality has the potential to affect aquatic habitats, water-dependent species, groundwater bodies and associated ecosystem functions.

22.9.7 Limitations and Assumptions

22.9.7.1 The initial assessment of LSEs within this Chapter are based on desk study results and publicly available information to date. The surveys relevant for this Chapter are still to be completed (see **Section 22.9.4**).

22.9.7.2 The assessment of potential effects has been based on current available and limited information. Further assessment including additional data collection, ground investigation, groundwater monitoring for the Proposed Development will be required to inform an updated conceptual groundwater model, provide the

relevant input for development of an appropriate groundwater model to assess the impacts of the Proposed Development on the water environment. The additional data will also inform the hydraulic modelling, WFD Assessment, that will be undertaken as part of the ES assessment.

22.9.7.3 The assessment relies on data provided by third-party sources, including statutory bodies and recognised organisations, and assumes that the information is accurate at the time it was obtained. Based on professional judgement, it is assumed that any effects on flood risk resources and receptors located further than 500m from the Proposed Development are negligible. A 500m buffer offset is considered an adequate distance that if levels were to rise minimally on Site, there would be negligible impact beyond 500m.

22.9.7.4 It is assumed that the data provided by third parties is accurate. Additionally, it is assumed that any effects on flood risk resources and receptors located further than 500 m from the Proposed Development are negligible, recognising that if an impact inside the study area is identified, the impact may extend beyond the study area.

22.9.7.5 An FRA and Surface Water Drainage Strategy will be prepared for the Proposed Development. The Surface Water Drainage Strategy will be developed in accordance with the mitigation hierarchy, seeking first to avoid and reduce the impacts to the water environment. The strategy will incorporate SuDS designed to manage the 1 in 100 year with an allowance for climate change rainfall event and promote amenity and biodiversity benefits. Treatment measures will be incorporated in the strategy which will demonstrate that any potential effects to the water environment are sufficiently mitigated. Following the implementation of the Surface Water Drainage Strategy and recommendations in the FRA, the Proposed Development will have a negligible effect on flood risk and drainage.

22.10 Proposed Approach to Mitigation

22.10.1.1 The Proposed Development will require mitigation in accordance with the mitigation hierarchy, prioritising the avoidance of effects. The Draft HENPS provides an outline of mitigation requirements for ‘Flood Risk’ and ‘Water Quality and Resources’ to be incorporated into the Proposed Development and the Proposed Development will adopt an integrated water environment management approach which seeks to protect and enhance water resources, maintain natural hydrological processes, improve water quality, increase climate resilience and contribute to biodiversity enhancement though measures such as promotion of the use of water efficiency measures throughout the Proposed Development, inclusion of SuDS, pollution prevention by design, long term protection of groundwater and long-term monitoring where required.

22.10.1.2 The following sections outline potential mitigation which are aligned Draft HENPS and will be developed further during the design and assessment process.

22.10.2 Primary Mitigation

22.10.2.1 This Section outlines any primary (embedded) mitigation that are assumed to be in place prior to undertaking an assessment of potential effects on the Water Environment and are defined as:

"Modifications to the location or design of the development made during the pre-application phase that are an inherent part of the project, and do not require additional action to be taken." [76].

22.10.2.2 Primary mitigation measures will be developed as part of an iterative design process and may include:

- Dewatering activities during the construction of the river diversion channels will require temporary flow diversions to mitigate the impact to flow downstream of the diversions.
- The existing channels of the River Colne, Wraysbury River, Duke of Northumberland's River and Longford River all fall within the footprint of the proposed new runway and airfield. As the Proposed Development extends the airport footprint westwards into the Colne Valley, modifications to these watercourses are required to accommodate the Proposed Development whilst maintaining the function of the wider water environment. To minimise the impact on watercourses as much as possible, culverted sections of rivers will be required as well as river diversions whilst seeking to maintain as much of the original watercourses as possible.
- The River Colne and the Wraysbury Rivers will be combined into one channel, whilst the Duke of Northumberland's and Longford River will be combined into another channel, with a slightly higher elevation to accommodate the difference in elevation between these rivers. River diversions and the introduction of any new channels will ensure that the proposed works do not detrimentally impact the connectivity of the watercourse network with the wider environment. The detailed arrangement of the river diversions and combination of channels remains subject to ongoing design development, hydraulic modelling, environmental assessment and stakeholder engagement. Potential effects associated with the diversion and combination of watercourses, including hydromorphological changes, WFD objectives, ecological considerations and the long-term resilience of the watercourse network, will be assessed through the ES process, including the preparation of the WFD assessment and associated hydromorphological and water quality assessments.
- A Surface Water Drainage Strategy (SWDS), which will inform the EIA and be appended to the ES chapter. This will:

[76]Institute of Environmental Management and Assessment (IEMA) Impact Assessment Guidelines: Implementing the Mitigation Hierarchy from Concept to Construction 2024 Available at: https://www.iema.net/media/oone2qce/iema-mitigation-in-eia-guidance-final.pdf

- Incorporate the latest standards and guidance for surface water drainage and SuDS[77]. The strategy will incorporate blue-green infrastructure including SuDS and will be designed for the 1 in 100 year with an allowance for climate change rainfall event.
- Demonstrate that the required surface water attenuation and treatment is provided to sufficiently mitigate any potential effects to the water environment as a result of Proposed Development.
- Incorporate appropriate consideration for long term protection of groundwater resources including avoiding impacts on groundwater flow paths and interaction with the surface water system.

- Flood resilient design for the proposed airside support buildings may include staff accommodation and hotels following standard requirements for ground floor levels of new development as set out in BS8533:2017 'Assessing and Managing Flood Risk in New Development – Code of Practice', including:
  - Ground floor levels set a minimum of 300mm above the modelled 1 in 100 annual probability plus allowance for climate change flood level;
  - Ground floor levels set a suitable freeboard above surrounding ground (typically minimum 150mm) to mitigate the residual flood risk associated with excess surface water runoff in an extreme rainfall event.
- Provide floodplain compensation if deemed necessary from hydraulic modelling undertaken in liaison with the EA. If required, it is anticipated that this will be designed to provide required compensation to show no impact or a betterment in the modelled 1 in 100 annual probability plus allowance for climate change flood level. Further mitigation requirements may be required as the hydraulic modelling aspects of the Proposed Development are progressed. If this is the case, mitigation will be carried out in line with the relevant guidance and requirements;
- New river crossings across the Colne Brook and the Wraysbury River, could result in a loss of existing floodplain storage and floodplain connectivity. Therefore, a suitable freeboard will be provided at river crossings to mitigate any impact to flow routes. The soffit of the bridge must sit above the 1 in 100 annual probability event plus 73% climate change allowance scenario. Further testing to the Credible Maximum climate change scenario may also be required subject to EA confirmation;

22.10.2.3 For groundwater, the primary mitigation would typically include measures to:

- Minimise groundwater flow obstruction due to foundations, tunnels and below ground structures;
- Manage temporary dewatering activities to minimise impacts on groundwater flows and groundwater resource;
- Temporary flow diversions to mitigate the impact to groundwater flow downstream during the construction of the river diversion channels;

[77] Department for Environment, Food & Rural Affairs. National standards for sustainable drainage systems. June 2025. Available at: https://www.gov.uk/government/publications/national-standards-for-sustainable-drainage-systems

- Minimise disruption of the groundwater-surface water connectivity within the Colne Valley system;
- Incorporate pollution prevention measures into the Proposed Development layout and construction activities;
- Promote sustainable management of groundwater recharge where appropriate.
- Implement sustainable drainage and runoff management measures for groundwater flood resilience and climate change; and
- Provide permanent monitoring and adaptive management.
- The use of water efficiency measures will be promoted throughout the Proposed Development to reduce the demand on the water network as much as possible.

22.10.3 Secondary Mitigation

22.10.3.1 Secondary mitigation measures are defined as:

"Actions that will require further activity in order to achieve the anticipated outcome. These may be imposed as part of the planning consent, or through inclusion in the Environmental Statement."[78]

22.10.3.2 Secondary mitigation may include items such as further programs surface water and groundwater quality monitoring, hydromorphological monitoring and groundwater level monitoring to verify assessment outcomes, identify any emerging impacts at an early stage, and assess the effectiveness of mitigation measures. Where monitoring indicates an unforeseen impact, or where residual effects remain, further mitigation may be required.

22.10.3.3 Secondary mitigation measures are typically identified where the initial assessment (inclusive of Primary Mitigation) concludes there will be a likely significant effect and therefore additional mitigation measures are required. If secondary mitigation measures are required, these will be outlined within the ES.

22.10.3.4 Where potential effects on the Water Environment exist, detailed mitigation measures will be incorporated into an Operational Environmental Management Plan (OEMP) which will be implemented throughout the operational phase of the Proposed Development to ensure compliance with relevant environmental legislation.

22.10.3.5 A program of surface water quality, groundwater level and groundwater quality monitoring will also be implemented during the construction period to verify assessment predictions, identify any emerging impacts at an early stage, and assess the effectiveness of mitigation measures. This may include continuous *in-situ* monitoring. Where monitoring indicates an unforeseen impact, or where residual effects remain, tertiary mitigation may be required. This could include additional treatment or containment measures, remediation of contaminated

[78]Institute of Environmental Management and Assessment (IEMA) Impact Assessment Guidelines: Implementing the Mitigation Hierarchy from Concept to Construction 2024 Available at: https://www.iema.net/media/oone2qce/iema-mitigation-in-eia-guidance-final.pdf

surface water, soil or groundwater, modification of construction activities, implementation of supplementary surface water and groundwater management measures, or restoration of affected water environment features.

22.10.3.6 If deemed necessary following detailed assessments, temporary groundwater level and groundwater quality monitoring may be implemented during the operational phase.

22.10.4 Tertiary Mitigation

22.10.4.1 This Section outlines potential tertiary mitigation measures, which are defined as:

"Actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental effects"[79].

22.10.4.2 Tertiary mitigation measures will be refined during the assessment process and may include:

- Production and implementation of a Construction Environmental Management Plan (CEMP) which will detail and formalise measures that will be implemented prior to and during construction to mitigate construction-related effects on the Water Environment. This would include Pollution Prevention Plans/Pollution Incident Response Plans detailing measures to manage construction site runoff, sediment and spillage risk.
- Appointment of a suitably qualified Environmental Clerk of Works (EnvCoW) to oversee and ensure compliance with environmental mitigation and management measures throughout the construction process.
- Appropriate risk assessments and method statements for earthworks to cover the critical aspects of construction which will have the potential to cause significant effects such as damage to underground infrastructure, mobilisation of large quantities of sediments/contaminants or potentially impact watercourses.
- Method statements will be agreed with the EA and LPA to ensure compliance with the relevant guidelines prior to the commencement of any works on the Proposed Development and to ensure that surface water quality is not adversely impacted during the construction process.
- Adherence to consents and permits for dewatering and discharge activities obtained from the EA during construction.
- A 'Flood Risk Activity Permit' (FRAP) application will be to be made to the EA regarding all proposed works in, over, under or near a Main River or a flood defence. This is required to demonstrate any new development does not have a detrimental impact on flood risk, either through impacting the integrity of the existing defence or through preventing maintenance access to the defence.

[79]Institute of Environmental Management and Assessment (IEMA) Impact Assessment Guidelines: Implementing the Mitigation Hierarchy from Concept to Construction 2024 Available at: https://www.iema.net/media/oone2qce/iema-mitigation-in-eia-guidance-final.pdf

- An Ordinary Watercourse Consent application will be made to the LLFA regarding any proposed works which would affect water flow within the cross-sectional area of the watercourse.
- Adherence to industry standard good practice guidance. Good practice guidance of relevance to the water environment includes, but is not limited to:
  - C532: Control of water pollution from construction sites[26];
  - C624: Development and Flood Risk – Guidance for the Construction Industry[28];
  - C648: Control of water pollution from linear construction projects: Technical guidance[29];
  - C649: Control of water pollution from linear Construction Projects: Site Guide[30];
  - C750: Groundwater control: design and practice[31];
  - C786: Culvert, screen and outfall manuual[32]; and
  - C811: Environmental good practice on site guide (fifth edition)[33].

22.10.4.3 Foul water shall be sent to either an on-site WwTW or Thames Water Mogden WwTW and be treated prior to discharge into any receiving water body.

22.10.4.4 Existing sewerage infrastructure must be adequately protected during construction to ensure no impact within or outside of the Proposed Development. Appropriate consents shall be sought for any required diversion works prior to undertaking work on Site. Appropriate consents shall be sought for any required diversion works prior to undertaking work on Site.

22.10.4.5 Further tertiary mitigation measures may be identified where necessary, including additional treatment or containment measures, remediation of contaminated soil or groundwater, modification of construction activities, implementation of supplementary groundwater management measures, or restoration of affected water environment features.

22.11 Summary

22.11.1.1 **Table 22-14** summarises the likely significant effects scoped in and out of the Water Environment assessment.

Table 22-14: Elements Scoped In/Out of Water Environment Assessment

Discipline	Scoped In Elements	Scoped Out Elements
Construction		
Water Environment	Dewatering during construction.	Tidal flood risk to all receptors

Discipline	Scoped In Elements	Scoped Out Elements
	Ground disturbance and sediment/contaminant mobilisation. Spillage/leakage of fuels, lubricants or other chemicals. Increased discharge of foul drainage and increased water demand. Increased flows from surface water runoff and dewatering. Temporary changes to flood risk caused by increased impermeable surfaces during construction and subsequent increased runoff. Temporary disruption of flood conveyance routes from works or storage of materials and stockpiles in the floodplain or existing drainage networks are disrupted or severed Subsurface works which may lead to altered local groundwater permeability, flow patterns and levels and an increase in groundwater flooding. Potential changes to downstream surface and groundwater flow regimes from watercourse diversions.	
Operation		
Water Environment	Increased run off from impermeable surfaces. Accidental spillage/leakage of fuels, lubricants or other chemicals used during operation including de-icing, firefighting, refuelling and fuel storage. Altering of watercourses and associated hydrological and hydromorphological effects.	Tidal flood risk to all receptors

Discipline	Scoped In Elements	Scoped Out Elements
	Increased discharge of foul drainage and increased water demand. Drainage systems resulting in runoff captured and discharged to different catchments. Operation of an on-site Wastewater Treatment works (if required) has the potential to alter flow regimes and influence surface water quality, depending on discharge volumes, receiving water characteristics, and treatment performance. Discharge of treated wastewater to a receiving watercourse may affect water quality characteristics and nutrient loading.	

Environmental Impact Assessment Scoping Report

Chapter 23

Lighting

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23 Lighting

23.1 Introduction

23.1.1.1 This Chapter of the Environmental Impact Assessment (EIA) Scoping Report has been prepared by Stantec and sets out the potential likely significant effects associated with artificial light (herein referred to as 'lighting') arising from the Proposed Development, which will be reported in the Environmental Statement (ES).

23.1.1.2 A standalone ES chapter on lighting effects is not proposed. Instead, a Lighting Strategy will be prepared to define the framework for the design and management of lighting associated with the Proposed Development during construction, operation and, where relevant, decommissioning. The Lighting Strategy will establish lighting design principles, embedded mitigation measures and performance requirements to avoid or minimise adverse effects on sensitive receptors and surrounding receptors, including residential communities, transport infrastructure, highways, and existing airport operations.

23.1.1.3 The assessment of lighting-related effects is incorporated within the relevant environmental topics. Effects on ecological receptors are addressed within **Chapter 6: Biodiversity**, while effects on landscape, townscape and visual receptors are addressed within **Chapter 15: Landscape, Townscape and Visual Impact Assessment**.

23.2 Policy, Legislation and Guidance

23.2.1.1 This section identifies the relevant topic specific policies that have informed the scope and, where relevant, the Study Area of the assessment present in this Chapter.

23.2.1.2 The land within the Scoping Boundary spans nine Local Planning Authorities, within the majority of the land (by area) located within the administrative area of the London Borough of Hillingdon[1]. The relevant adopted and emerging local planning policies applicable to each host authority have been reviewed and area summarised in **Table 23-1**.

[1] London Borough of Hillingdon, London Borough of Hounslow, London Borough of Richmond upon Thames, London Borough of Ealing, Royal Borough of Windsor and Maidenhead, Spelthorne Borough Council, Slough Borough Council, Buckinghamshire Council and Runnymede Borough Council

Table 23-1: Policy Relevant to Lighting

Relevant Policy	Relevance to Assessment
Policy – National	
Airports National Policy Statement (ANPS) (2018)[2]	The ANPS is relevant to the assessment of artificial lighting as it provides the policy framework for the environmental assessment of airport expansion and associated infrastructure. Whilst references to lighting are limited, the document requires significant environmental effects to be identified and mitigated. The lighting assessment supports this process by evaluating potential lighting effects and identifying measures to minimise impacts on sensitive receptors.
Draft Heathrow Expansion National Policy Statement (HENPS) (2026)[3]	The Draft HENPS is relevant as it recognises the potential for light pollution and other effects arising from airport-related lighting. It therefore provides policy context for assessing and mitigating the impacts of construction and operational lighting on surrounding receptors and the wider environment.
National Planning Policy Framework (NPPF) (2026)[4]	The NPPF sets out the Government's planning policies for England and provides the overarching framework for determining planning applications and promoting sustainable development. The NPPF is relevant to the assessment as it requires planning decisions to consider the effects of artificial light on amenity, the natural environment and local character, and to ensure that development is appropriate for its location.

[2] Department for Transport, Airports National Policy Statement. 2018. Available at https://www.gov.uk/government/publications/airports-national-policy-statement (accessed 10/07/2026)
[3] Department for Transport, Draft Heathrow Expansion National Policy Statement. 2026. Available at Draft Heathrow Expansion National Policy Statement (HENPS) (2026). (accessed on 10/07/2026)
[4] Ministry of Housing, Communities & Local Government, National Planning Policy Framework. 2026. Available at https://www.gov.uk/guidance/national-planning-policy-framework (accessed on 10/07/2026)

Relevant Policy	Relevance to Assessment
National Networks National Policy Statement (NNNPS) (2024)[5]	The NNNPS is relevant to this assessment as it requires the potential environmental effects of nationally significant transport infrastructure projects to be identified, assessed and, where necessary, mitigated. This includes effects arising from artificial lighting on sensitive receptors such as local communities, landscape character and biodiversity
Planning Practice Guidance (PPG) (Updated 2024)[6]	The PPG is relevant to this assessment as it provides guidance on how potential environmental effects should be considered through the planning process. This includes the effects of artificial lighting, which should be assessed with regard to the needs of the development and the characteristics of the surrounding area.
Policy – Regional	
The London Plan (2021)[7]	The London Plan provides the overarching planning policy framework for development within Greater London. The Scoping Boundary falls within this policy context, which seeks to minimise light pollution and reduce adverse effects on residential amenity, biodiversity, and the wider night-time environment through the appropriate design and control of artificial lighting. The Draft London Plan (2026) is currently under examination and builds upon the framework with stronger emphasis on dark sky protection, ecological corridors, and residential amenity. While it does not yet carry full statutory weight, it contains policies relevant to this assessment and represents

[5] Department for Transport, National Networks National Policy Statement (NNNPS) (2024). Available at https://www.gov.uk/government/publications/national-networks-national-policy-statement. (accessed 01/09/2026)
[6] Ministry of Housing, Communities and Local Government, Planning Practice Guidance (PPG) (2024). Available at https://www.gov.uk/government/collections/planning-practice-guidance. (accessed 10/07/2026)
[7] Mayor of London, The London Plan 2021, Available at https://www.london.gov.uk/programmes-strategies/planning/london-plan/london-plan-2021 (accessed 10/07/2026)

Relevant Policy	Relevance to Assessment
	a material consideration in planning application determinations.[8]
Policy – Local	
Hillingdon Local Plan Part 1: Strategic Policies (2012)[9] and Local Plan Part 2: Development Management Policies (2020)[10]	The Hillingdon Local Plan provides the local planning policy framework for development within the Borough. The Plan contains policies relating to environmental quality, biodiversity, amenity and the built environment, which seek to ensure that development is appropriately designed and does not give rise to unacceptable environmental effects. These policies are relevant to the design and assessment of external lighting and its potential effects on surrounding receptors.
London Borough of Hounslow Local Plan (2015)[11]	The London Borough of Hounslow (LBH) Local Plan is relevant as it provides the local planning policy framework for parts of Heathrow Airport and associated development within the Borough. The lighting assessment supports compliance with these policies by evaluating the potential effects of artificial lighting and identifying measures to minimise impacts on sensitive receptors. The emerging LBH Local Plan 2020–2041, which is currently undergoing examination, is also relevant as it sets out the future policy direction for development within the borough and includes policies applicable to environmental and lighting considerations.

[8] Mayor of London, The Draft London Plan, 2026. Available at https://www.london.gov.uk/programmes-strategies/planning/london-plan/next-london-plan/draft-london-plan-consultation/draft-london-plan-consultation-resources/draft-london-plan. (accessed 01/09/2026)
Mayor of London, The London Plan 2021, Available at https://www.london.gov.uk/programmes-strategies/planning/london-plan/london-plan-2021 (accessed 10/07/2026)
view (accessed 12/07/2026)
[10] London Borough of Hillingdon, Hillingdon Local Plan Part 2 Development Management Policies. Available at https://pre.hillingdon.gov.uk/planning-policy/local-plan-review (accessed 12/07/2026)
[11] London Borough of Hounslow, London Borough of Hounslow Local Plan (2015). Available at https://www.hounslow.gov.uk/local-plan/local-plan-1. (accessed on 12/07/2026)

Relevant Policy	Relevance to Assessment
London Borough of Richmond upon Thames Local Plan (2025)[12]	Although only a small part of the lighting assessment Scoping Boundary extends into the London Borough of Richmond upon Thames, the Local Plan remains relevant as it forms part of the statutory planning policy framework applicable to the study area. The assessment therefore considers relevant policies to ensure that potential lighting effects on receptors within the borough are appropriately evaluated and addressed.
London Borough of Ealing Local Plan - Development Strategy (2026) Development Plan Document[13]	The London Borough of Ealing Local Plan is relevant as parts of the borough are located immediately northeast of Heathrow Airport and may experience lighting-related effects associated with airport development. The lighting assessment therefore considers potential effects on sensitive receptors and the wider night-time environment within the borough. The emerging Local Plan (2024–2039) is also relevant, as it sets out the borough's proposed planning strategy and policy objectives for the plan period. Accordingly, regard has been had to relevant emerging policies during the assessment where they relate to lighting and environmental considerations.
Spelthorne Local Plan 2024 – 2039/40[14]	The Spelthorne Local Plan is relevant as the borough borders Heathrow Airport to the south and contains residential communities in close proximity to the airport. The lighting assessment supports these policies by evaluating potential effects of

[12] London Borough of Richmond Upon Thames Local Plan 2024 – 2039. Available at https://www.richmond.gov.uk/services/planning/planning_policy/local_plan/adopted_local_plan. (accessed 20/07/2026)
[13] London Borough of Ealing, London Borough of Ealing Development Strategy 2026. Available at https://www.ealing.gov.uk/downloads/download/7530/development_or_core_strategy_dpd. (accessed on 13/07/2026)
[14] Spelthorne Borough Council, Spelthorne Local Plan 2024-2039/40. Available at https://www.spelthorne.gov.uk/page/1383/local-plan-march-2026. (accessed on 13/07/2026)

Relevant Policy	Relevance to Assessment
	artificial lighting on nearby receptors and identifying appropriate mitigation measures.
Royal Borough of Windsor and Maidenhead – Borough Local Plan 2013 – 2033[15]	The Royal Borough of Windsor and Maidenhead Local Plan is relevant as parts of the borough lie to the west of Heathrow Airport and may experience changes to the night-time environment arising from airport development.
Slough Local Development Framework Core Strategy 2006 – 2026[16]	The Slough Local Development Framework Core Strategy is relevant to the assessment of artificial lighting as it includes objectives relating to environmental quality and the protection of amenity. Given Slough's proximity to the western boundary of Heathrow Airport, the document provides important policy context for considering potential lighting effects on the surrounding environment, including light spill, glare and changes to the night-time environment.
Wycombe District Local Plan (2019)[17] South Bucks Core Strategy (2011)[18]	These are both relevant as they relate to the areas of Buckinghamshire located closest to Heathrow Airport and contain policies concerning design quality, landscape character, environmental protection and residential amenity. Whilst neither document includes a dedicated policy specifically addressing artificial lighting, together they provide a policy framework through which potential effects associated with light spill, visual intrusion,

[15] Royal Borough of Windsor and Maidenhead, Royal Borough of Windsor and Maidenhead – Borough Local Plan 2013-2033. Available at https://www.rbwm.gov.uk/planning-and-building-control/planning-policy/development-plan/adopted-local-plan. (accessed on 14/07/2026)
[16] Slough Borough Council, Slough Local Development Framework Core Strategy 2006 – 2026. Available at https://www.slough.gov.uk/downloads/download/581/development-plan-core-strategy-2006---2026. (accessed on 14/07/2026)
[17] Buckinghamshire Council, Wycombe District Local Plan. 2019. Available at https://www.buckinghamshire.gov.uk/planning-building-and-environment/policy/local-development-scheme/local-development-scheme/our-current-plans-and-documents/. (accessed 15/07/2026)
[18] Buckinghamshire Council, South Bucks Core Strategy. 2011. Available at https://www.buckinghamshire.gov.uk/planning-building-and-environment/policy/local-development-scheme/local-development-scheme/our-current-plans-and-documents/. (accessed on 15/07/2026)

Relevant Policy	Relevance to Assessment
	environmental quality and sky glow can be considered, particularly where sensitive receptors or valued landscapes may be affected.
Draft Local Plan for Buckinghamshire 2045 (Regulation 19)[19]	Whilst Heathrow Airport is located outside Buckinghamshire, the draft Local Plan may be of limited relevance where the assessment considers receptors or environmental designations within Buckinghamshire, or where cumulative changes arising from planned development within the authority could influence future lighting conditions.
Runnymede 2030 Local Plan[20]	Runnymede is located immediately south of Heathrow Airport and contains residential communities that may experience views towards airport infrastructure and associated lighting. This is therefore relevant as it seeks to protect visual amenity and environmental quality, providing a policy context for considering whether changes in lighting could affect receptors within the borough.

[19] Draft Local Plan for Buckinghamshire 2045 (Regulation 19). Available at https://www.buckinghamshire.gov.uk/planning-building-and-environment/policy/buckinghamshire-local-plan/reg-19-consultation/. (accessed 01/09/2026)

[20] Runnymede Borough Council, Runnymede 2030 Local Plan. Available at https://www.runnymede.gov.uk/planning-policy/runnymede-2030-local-plan. (accessed 15/07/2026)

Table 23-2: Legislation relevant to Lighting

Relevant Legislation	Relevance to assessment
Legislation – International	
Civil Aviation Act 1982	The Civil Aviation Act 1982 provides the statutory framework for civil aviation in the UK and establishes the functions of the Civil Aviation Authority (CAA), including matters relating to aviation safety and the operation of aerodromes. It is relevant to the assessment as it provides the legislative context for considering whether proposed lighting could affect the safe operation of aircraft, aerodrome safeguarding or aviation infrastructure[21].
Air Navigation Order 2016[22]	The Air Navigation Order 2016 contains provisions relating to aerodromes, lighting and en-route obstacles. It is directly relevant to the assessment as it prevents the exhibition of lighting which, by reason of glare or potential confusion with aeronautical ground lighting, could endanger aircraft taking off from or landing at an aerodrome.
Environmental Protection Act 1990[23]	The Environmental Protection Act 1990 is relevant where artificial light from premises has the potential to constitute a statutory nuisance, including where it may unreasonably interfere with the use or enjoyment of other premises or be prejudicial to health. Its relevance to airport-related lighting should be considered with caution, as artificial light from airports is generally exempt from the statutory nuisance provisions; however, the Act remains useful context when considering wider light nuisance effects from non-exempt premises or associated development.

Table 23-3: Guidance relevant to Lighting

Relevant Guidance	Relevance to assessment
Guidance – International	
International Civil Aviation Organisation (ICAO) Annex 14 - Aerodromes[24]	ICAO Annex 14 establishes international standards for aerodrome design and operation, including visual aids, obstacle lighting and aerodrome lighting systems. It is therefore relevant in assessing whether the proposed lighting could adversely affect aviation safety, pilot visibility or the operation of nearby airport lighting infrastructure.
ICAO Doc 9157 – Aerodrome Design Manual[25]	ICAO Doc 9157 provides detailed guidance on the implementation of the standards contained within ICAO Annex 14, including the design of visual aids and aerodrome lighting systems. It assists in assessing the potential for lighting to cause distraction, confusion or adverse effects on airport operations
International Commission on Illumination (originally Commission Internationale de l'Éclairage) (CIE) 150:2017 – Guide on the Limitation of the Effects of Obtrusive Light from Outdoor Lighting Installations[26]	CIE 150:2017 provides internationally recognised guidance for the assessment and control of obtrusive light, including glare, light intrusion and light spill. It is relevant in determining whether the proposed lighting could result in unacceptable visual impacts beyond the Scoping Boundary, including effects on aviation receptors.
Guidance – National	

[21] Department for Transport, Civil Aviation Act 1982. Available at https://www.legislation.gov.uk/ukpga/1982/16/contents (accessed 28/08/2026)
[22] Department for Transport, The Air Navigation Order 2016. Available ahttps://www.legislation.gov.uk/uksi/2016/765/contents (accessed 28/08/2026)
[23] Department for Environment, Food and Rural Affairs, Environmental Protection Act 1990.Available at https://www.legislation.gov.uk/ukpga/1990/43/contents (accessed 28/08/2026)
[24] International Civil Aviation Organisation (ICAO), Annex 14 – Aerodromes. Available at https://elibrary.icao.int/product/274803 (accessed 10/07/2026)
[25] ICAO, Doc 9157 – Aerodrome Design Manual. Available at https://store.icao.int/en/aerodrome-design-manual-runways-doc-9157-part-1-amendment-no-1-dated-24-6-25 (accessed on 10/07/2026)
[26] CIE, Guide on the Limitation of the Effects of Obtrusive Light from Outdoor Lighting Installations. Available at https://www.cie.co.at/publications/guide-limitation-effects-obtrusive-light-outdoor-lighting-installations-2nd-edition. (accessed 10/07/2026)

Relevant Guidance	Relevance to assessment
Civil Aviation Authority (CAA) Civil Aviation Publication (CAP) 168 – Licensing of Aerodromes[27]	CAA CAP 168 establishes the standards applicable to licensed aerodromes within the UK, including requirements relating to visual aids, obstacle management and aerodrome lighting. The document is relevant to the assessment as it provides the framework for ensuring that proposed lighting does not adversely affect aviation safety or the operation of the airport.
CAA CAP 738 – Safeguarding of Aerodromes[28]	CAA CAP 738 provides guidance on protecting aerodrome operations from potentially hazardous development. It is relevant in considering whether the proposed lighting could create aviation safety risks through glare, distraction or visual confusion.
Institute of Lighting Professionals (ILP) Guidance Note (GN)01:2026 – Guidance Notes for the Avoidance of Obtrusive Light[29]	ILP GN01 provides UK guidance for the assessment and control of obtrusive light. It is relevant in determining whether the proposed lighting could give rise to unacceptable levels of glare, light spill or light intrusion beyond the site boundary.
ILP GN08:2023 – Bats and Artificial Lighting at Night[30]	ILP GN08 provides guidance on minimising the effects of artificial lighting on bats and their habitats. The document is relevant where lighting proposals may affect bat foraging, commuting or roosting features within or adjacent to the Scoping Boundary.

[27] UK Civil Aviation Authority, Civil Aviation Authority (CAA) Civil Aviation Publication (CAP) 168 – Licensing of Aerodromes. Available at https://www.caa.co.uk/data-and-publications/publications/documents/content/cap-168/ (accessed on 15/07/2026)
[28] UK Civil Aviation Authority, CAA CAP 738 – Safeguarding of Aerodromes. Available at https://www.caa.co.uk/data-and-publications/publications/documents/content/cap-738/. (accessed 15/07/2026)
[29] Institute of Lighting Professionals, ILP GN01/2026, The Avoidance of Obtrusive Light. Available at https://theilp.org.uk/resource/gn01-26-the-avoidance-of-obtrusive-light.html. (accessed 09/07/2026)
[30] Institute of Lighting Professionals, ILP GN08/2023, Bats and Artificial Lighting at night. Available at https://theilp.org.uk/resource/gn08-bats-and-artificial-lighting-pdf.html. (accessed 09/07/2026)

Relevant Guidance	Relevance to assessment
ILP Professional Lighting Guide (PLG) 04:2013 – Guidance on Undertaking Environmental Lighting Impact Assessments [31]	LP PLG04 provides guidance on the assessment of the effects of artificial lighting on the environment and identifies a structured approach for undertaking Lighting Impact Assessments. The document is relevant to the assessment and reporting of potential lighting effects on sensitive receptors, including residential amenity, landscape character, visual receptors, ecology and dark skies.
Chartered Institute of Building Services Engineers (CIBSE) Society of Light & Lighting (SLL) Handbook[32]	It provides industry-recognised guidance on the principles of lighting design, including visual performance, glare control, lighting quality, energy efficiency and lighting management. Whilst the handbook is not specifically written for airports, and many sections relate to building types and applications that are not relevant to aviation environments, it contains general lighting design principles that are applicable to the design and assessment of airport infrastructure.
Relevant British Standards (BS) Documents relating to Lighting	These guidance documents provide industry-recognised good practice relating to the design, installation, operation and assessment of lighting. Collectively, they establish principles and technical requirements covering areas such as visual performance, safety, navigational lighting, environmental impacts, obtrusive light, ecological considerations, lighting quality, glare control and energy efficiency.

23.3 Stakeholder Engagement

23.3.1.1 Stakeholder engagement is being undertaken as part of the wider development and EIA process. Following receipt of the Scoping Opinion, targeted engagement

[31] Institute of Lighting Professionals, ILP PLG/2013, Guidance on Undertaking Environmental Lighting Impact Assessments. Available at https://theilp.org.uk/product/plg04-guidance-on-undertaking-environmental-lighting-impact-assessments-2013.html. (accessed 09/07/2026)
[32] CIBSE, Lighting Handbook. 2018. Available at https://www.cibse.org/. (accessed on 10/07/2026)

will be undertaken with relevant stakeholders, as appropriate, to inform the development of the Lighting Strategy, including agreement of the assessment methodology, design principles and any stakeholder-specific requirements.

23.4 Study Area

23.4.1.1 The Study Area for Lighting has been divided into three areas:

- Scoping Boundary
- Immediate Surrounds: the area adjacent to the Scoping Boundary, containing receptors that may have direct or partial views of lighting associated with the Proposed Development; and
- Extended Surrounds: an area generally extending beyond the Immediate Surrounds where wider lighting effects, including changes in night-time character and sky glow, may occur.

23.4.1.2 There is no prescribed Study Area for lighting assessments. The extent of the Study Area has therefore been defined using professional judgement, informed by the *Institute of Lighting Professionals Guidance Note 01/2026: Guidance Notes for the Avoidance of Obtrusive Light* and the *Institute of Lighting Professionals Professional Lighting Guide 04: Guidance on Undertaking Environmental Lighting Impact Assessments*. The Study Area has been determined having regard to the potential extent of lighting effects, taking account of factors including visibility, baseline lighting conditions, topography, existing screening and the location of sensitive receptors.

23.5 Sources of Data used in Scoping

23.5.1 Baseline Sources

23.5.1.1 The scoping of lighting effects has been informed by a desk-based review of data sources relevant to lighting receptors within the study area. Whilst the desk-based review provides a robust basis for establishing baseline lighting conditions, surveys undertaken later in the project will be used to further inform and validate the baseline assessment.

Table 23-4: Data Sources used for Scoping

Source	Relevance to the assessment
Light Pollution Mapping:	These sources provide an indication of existing artificial light levels and night-time sky brightness in the

Source	Relevance to the assessment
- Light Pollution Map[33] - DarkSkySites[34]	vicinity of the Site. This information helps to establish the baseline lighting environment and inform the assessment of the Proposed Development's potential lighting effects.
- Google Mapping - Google Streetview	These sources were used to identify the surrounding land uses and the spatial relationship between the Site and nearby receptors. This included the identification of sensitive human receptors (residential and transport) with the potential to be affected by the Proposed Development, including residential properties and road users.

23.6 Baseline Conditions

23.6.1 Overview

23.6.1.1 The Institution of Lighting Professionals' Guidance Note for the Avoidance of Obtrusive Light (2026) establishes Environmental Lighting Zones (ELZ) to classify the prevailing night-time lighting character of an area, ranging from dark rural locations to brightly lit urban environments. The land within the existing Heathrow Airport is considered to fall within an E4 (Urban) ELZ. The land surrounding the existing Heathrow Airport is considered to fall predominantly within an E3 (Sub-urban) ELZ, with some pockets of land considered to fall within an E2 (Rural) ELZ.

23.6.2 Scoping Boundary

23.6.2.1 The settlements of Harmondsworth and Sipson lie within the Scoping Boundary and are characterised by lighting sources typically associated with residential areas, for example domestic wall-mounted luminaires, security lighting and small-scale floodlighting.

23.6.2.2 Many of the roads within these residential areas are illuminated by streetlighting, particularly at road junctions, along key routes, and within the settlement centres. A number of the luminaires comprise post-mounted luminaires, including

[33] Light Pollution Map. Available at https://www.lightpollutionmap.info/. (accessed 10/07/2026)
[34] DarkSkySites. Available at https://darkskysites.com/. (accessed 10/07/2026)

decorative sconce-style fittings with exposed light sources. Based on observations made during the desk-based study, mounting heights are estimated to range from approximately 5m to 15m.

23.6.2.3 Several buildings and operational areas within the Site boundary support airport-related activities (including hotels and car parks) and are expected to include a range of lighting, such as entrance lighting, security lighting and car park lighting. Some of these facilities may operate throughout the night; therefore, associated lighting could remain switched on during the hours of darkness.

23.6.3 Immediate Surrounds

23.6.3.1 The Scoping Boundary is surrounded by major roads, notably the M25 to the west, the M4 to the north and east, and Bath Road to the south. These roads are illuminated by street lighting which operates throughout the hours of darkness. Owing to the high volumes of traffic using these routes during the night-time period, vehicle headlights also contribute significantly to the existing lighting environment surrounding the Site.

23.6.3.2 The existing Heathrow Airport site to the south contains numerous light sources associated with airport operations, including Approach Lighting Systems (ALS), airfield infrastructure lighting and security lighting. Many of these light sources operate throughout the hours of darkness and contribute to the existing night-time lighting environment within the area.

23.6.3.3 Several settlements are located within the Immediate Surrounds of the Site, resulting in a well-established baseline of artificial lighting from primarily residential, commercial and transport-related land uses. Sources of illumination primarily include street lighting, security lighting, illuminated signage, retail frontages, community facilities, leisure uses, railway stations and associated parking areas, together with other forms of lighting typically associated with town centres and developed urban environments.

23.6.3.4 Numerous residential dwellings are located within 1km of the Site and feature light sources typically associated with residential areas. These primarily include domestic wall-mounted luminaires, security lighting, garden lighting and local residential street lighting.

23.6.3.5 Transport infrastructure, within the surrounding area, such as the major roads and railway networks, contributes to the existing night-time environment. Light sources associated with nearby roads, railway stations and associated facilities, contribute to the baseline lighting environment and are typically operational throughout the hours of darkness to support transport operations and public safety.

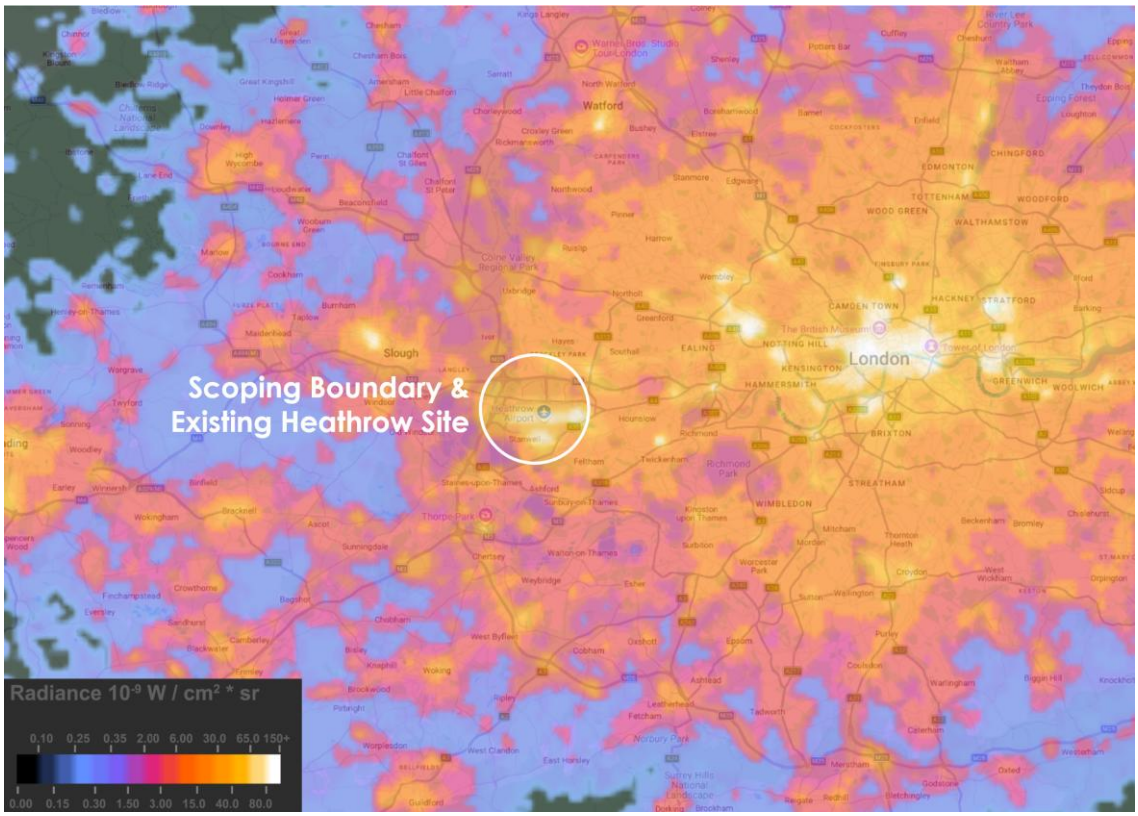
23.6.4 Extended Surrounds

23.6.4.1 The Site is located within a highly urbanised area that already experiences significant levels of obtrusive light, including glare, light intrusion and sky glow. It

lies within the wider Greater London area and in relatively close proximity to Central London, both of which are major sources of artificial light and contribute to elevated background brightness during the hours of darkness.

23.6.4.2 The areas of elevated levels of light can be identified within the satellite information (National Polar-orbiting Partnership Visible Infrared Imaging Radiometer Suite (VIIRS) as shown in **Figure 23-1**.

Figure 23-1 – Satellite VIIRS Data of the Scoping Boundary / Existing Heathrow Site and the surrounding area (Source - https://www.lightpollutionmap.info)



Proposed Approach to Mitigation

23.6.5 This section outlines the mitigation measures that will be incorporated into the design, construction, operation and maintenance of the Proposed Development to minimise the potential for adverse effects arising from artificial lighting. In accordance with the draft HENPS, the assessment will demonstrate how the mitigation hierarchy has been applied throughout the development process. The mitigation approach comprises a combination of primary, secondary and tertiary mitigation measures, which seek to avoid and reduce

potential lighting effects where reasonably practicable and manage any residual effects that may remain.

Primary Mitigation

23.6.5.1 The design of the Proposed Development will seek to minimise lighting requirements whilst maintaining operational and aviation safety standards. Lighting will be provided only where necessary and opportunities to minimise the extent of lighting will be incorporated into the design wherever reasonably practicable.

23.6.5.2 The design will be informed by the principles of Responsible Outdoor Lighting at Night (ROLAN[35]). This includes the use of appropriate lighting levels, the careful positioning and orientation of lighting infrastructure, and the minimisation of unnecessary light spill, glare and sky glow. Collectively, these measures form an inherent part of the Proposed Development and represent the primary means of avoiding adverse effects.

Secondary Mitigation

23.6.5.3 Where lighting is required to meet operational and aviation safety requirements, secondary mitigation measures will be incorporated into the detailed design of the lighting scheme to reduce the potential for effects on sensitive receptors. This may include the specification of appropriate luminaire types and optical distributions, the use of shielding and lighting controls, and consideration of opportunities for screening by buildings, structures or other physical features where appropriate.

23.6.5.4 These measures will seek to minimise light spill, glare, light intrusion and sky glow, and reduce the visibility and extent of artificial lighting beyond operational areas whilst maintaining the required lighting performance and aviation safety standards.

Tertiary Mitigation

23.6.5.5 Tertiary mitigation will comprise construction good practice measures secured through the Construction Environmental Management Plan (CEMP). These measures would include, but would not be limited to, the use of task-specific lighting where practicable, the careful positioning and orientation of temporary lighting to minimise unnecessary light spill beyond the Site boundary, the implementation of lighting controls to ensure lighting is used only where and when required, and the use of hoarding, screening and temporary fencing where appropriate to limit views of construction activities and associated lighting.

23.7 Likely Significant Effects Requiring Assessment

23.7.1.1 Artificial lighting associated with the construction and operational phases of the Proposed Development has the potential to result in effects arising from sky glow,

[35] ROLAN (Responsible Outdoor Lighting at Night) is a set of best-practice principles that promotes the use of outdoor lighting only where necessary whilst minimising light spill, glare and sky glow.

glare and light intrusion. The assessment will consider these effects in the context of the existing airport environment, which contains extensive sources of artificial lighting, and their potential influence on identified light-sensitive receptors

Construction

23.7.1.2 During construction, temporary lighting will be required to facilitate safe working practices, site security and, where necessary, activities undertaken outside daylight hours. Given the scale of the Proposed Development, construction lighting is expected to be more extensive than that associated with a conventional construction project, with lighting potentially required at compounds, welfare facilities, logistics and storage areas, haul routes, work areas, rail infrastructure, plant operating areas, waste management facilities and utility installations.

23.7.1.3 The location, intensity and duration of construction lighting will vary throughout the construction programme in response to changing construction activities and operational requirements. Potential effects may include increased visibility of artificial lighting and temporary changes in local lighting conditions experienced by nearby residential receptors and transport users.

23.7.1.4 Residential receptors to the north of the M4, adjacent to The Parkway, and individual dwellings and settlements surrounding the Site may experience views of temporary construction lighting. However, such lighting would generally be localised, temporary in nature and associated with specific construction activities. Road users may also experience views of construction lighting, although the majority of surrounding roads are located within established lit highway corridors where artificial lighting is already a defining characteristic of the baseline environment.

23.7.1.5 Construction lighting will be designed, installed and managed in accordance with best practice and secured through the Construction Environmental Management Plan (CEMP). This will include the application of design principles and mitigation measures to minimise unnecessary light spill, glare and sky glow, whilst ensuring compatibility with airport operations and maintaining the safe movement of aircraft during approach, take-off and ground operations.

23.7.1.6 Taking account of the established lit baseline environment, the temporary and intermittent nature of construction lighting, and the implementation of embedded mitigation measures through the CEMP, significant effects on residential receptors, transport users or airport operations are not anticipated. Any residual effects are expected to be of negligible to minor significance and therefore not significant in EIA terms.

23.7.1.7 Potential cumulative effects will be considered alongside other existing and committed sources of artificial lighting within the study area. However, given the highly urbanised and extensively illuminated nature of the baseline environment, significant cumulative lighting effects are not anticipated during the construction phase.

Operation

23.7.1.8 The Proposed Development is located within an established airport and urban environment where the night-time baseline is already strongly influenced by extensive artificial illumination associated with Heathrow Airport, surrounding commercial development and the strategic transport network. Residential receptors, transport users and airport operations currently experience a night-time environment characterised by substantial existing sources of artificial light.

23.7.1.9 During operation, lighting will be required across various elements of the Proposed Development to support airport operations, safety, security and the efficient movement of passengers, staff, vehicles and aircraft. Whilst lighting requirements and operational hours will vary depending on the function of individual areas, some lighting installations will operate throughout the hours of darkness.

23.7.1.10 Potential effects may include changes in the visibility of artificial lighting and localised changes to lighting conditions experienced by nearby residential receptors and transport users. Residential receptors in the vicinity of the Site may experience views of operational lighting associated with the Proposed Development, whilst road users on surrounding transport corridors may also experience views of illuminated airport infrastructure and operational areas.

23.7.1.11 All operational lighting will be designed in accordance with the principles and requirements set out in the Lighting Strategy. The strategy will establish embedded mitigation measures and performance requirements to minimise unnecessary light spill, glare and sky glow, whilst ensuring that lighting remains appropriate for the airport environment and fully compatible with airport operations, including the safe movement of aircraft during approach, take-off and ground operations.

23.7.1.12 The Lighting Strategy will also identify where lighting can be tailored to the operational requirements of each area, with illumination provided only where necessary and at an appropriate level for its intended purpose. Through the application of modern lighting design standards and embedded mitigation measures, adverse effects on surrounding receptors will be minimised as far as reasonably practicable.

23.7.1.13 Taking account of the existing baseline conditions, the airport context of the Site, and the implementation of design and mitigation measures secured through the Lighting Strategy, the Proposed Development is not anticipated to result in significant adverse lighting effects on residential receptors, transport users or airport operations.

23.7.1.14 Potential cumulative effects will be considered in combination with other existing and committed sources of artificial lighting within the study area. However, given that the Proposed Development would form part of an existing airport environment characterised by substantial artificial illumination, and in the absence of nearby

developments expected to contribute materially to lighting conditions, significant cumulative lighting effects are not anticipated.

Decommissioning

23.7.1.15 The Proposed Development is assumed to be permanent and as such no foreseeable decommissioning phase is expected. Lighting components are expected to remain in place throughout the operational life of the airport and would be subject to routine inspection, maintenance, refurbishment, renewal and replacement, as necessary.

Table 23-5: Likely Significant Lighting Effects during Construction/Decommissioning and Operation.

Activity	Effect	Receptor	Mitigation
Construction / Decommissioning			
Use of security lighting for the illumination of Site compounds, storage areas etc Use of lighting for construction / decommissioning activities undertaken during the hours of darkness	Effect on nearby residents arising from increased artificial light levels, changes in the character of the night-time environment, and associated effects on residential amenity. Effect on users of the surrounding transport network arising from increased artificial light levels, including potential effects on driver perception, visual comfort and the safe operation of vehicles. Disruption to the exiting airport operations arising from increased artificial light levels, including potential effects on visual conditions within the operational environment and the safe and efficient	Residential Transport (Road Users) Airport Operations	Lighting will be managed in accordance with measures set out within the CEMP. Where practicable, infrared lighting linked to CCTV will be utilised within perimeter, security and storage areas to minimise the need for visible lighting. Temporary lighting will be orientated away from Site boundaries wherever reasonably practicable to reduce light spill beyond the construction areas. Task-specific lighting will be used only for the duration of the

Activity	Effect	Receptor	Mitigation
	functioning of airport activities		activity being undertaken and switched off once the task has been completed. Lighting levels will be limited to the minimum required to safely undertake construction activities, avoiding unnecessary over-illumination. Hoarding, temporary screening or other visual barriers will be utilised where appropriate to reduce the visibility of construction lighting and limit light spill beyond work areas.
Movement of construction / decommissioning vehicles within the Site	Amenity impacts on nearby residents arising from the sudden appearance of vehicle headlights. Visual distraction to users of the surrounding transport network arising from the sudden appearance of vehicle headlights as construction vehicles move around the Site. Operational impacts on airport activities arising from the sudden appearance of vehicle	Residential Transport (Road Users) Airport Operations	Lighting will be managed in accordance with measures set out within the CEMP. Hoarding, temporary screening or other visual barriers will be utilised where appropriate to reduce the visibility of construction lighting and limit light spill beyond work areas. Within vehicle circulation areas

Activity	Effect	Receptor	Mitigation
	headlights associated with construction / decommissioning traffic movements.		where pedestrian access is not required, consideration will be given to the use of unlit routes supported by passive (retroreflective) route markers to minimise the need for artificial lighting.
Operation			
Use of lighting to support operations of the new runway and associated, including security, road and te rminal lighting	Effects on the amenity of residential dwellings with direct or partial views of the Site, as well as indirect effects associated with upward light emissions contributing to sky glow. Visual impacts to the users of the surrounding roads, as well as the roads within the Site, from poorly orientated lighting. Poorly designed light impact operations within the Site of the new runway and existing airport, including upward light impact flights as they approach.	Residential Transport (Road Users) Airport Operations	Lighting will be directed downwards wherever practicable, with luminaires selected to achieve a negligible Upward Light Ratio (ULR). Perimeter lighting will be orientated towards the interior of the Site to minimise light spill beyond the Site boundary. Appropriate shielding will be incorporated where necessary to limit light spill and reduce the visibility of lighting. Lighting within areas not routinely

Activity	Effect	Receptor	Mitigation
			operated during hours of darkness will be dimmed to a low output or remain switched off until activated by movement detection.

23.7.2 In-Combination Effects

23.7.2.1 As a standalone assessment of lighting effects is not proposed, lighting-related effects will be considered, where relevant, within the environmental topics for which artificial lighting may represent an effect pathway. This includes **Chapter 6**: **Biodiversity**, which will consider the potential effects of artificial lighting on ecological receptors, and **Chapter 15**: **Landscape, Townscape and Visual Impact Assessment**, which will consider the influence of lighting on landscape character and visual amenity. Any relevant interactions between lighting and other environmental topics will be considered as part of the respective assessments and embedded within the development of the Lighting Strategy.

23.7.3 Limitations and Assumptions

23.7.3.1 The proposed approach set out in this Chapter is based on published and readily available information, supported by site observations and ongoing design development. Where relevant information is unavailable, a proportionate and precautionary approach will be adopted in the development of the Lighting Strategy and any topic-specific assessments where lighting represents a relevant effect pathway.

23.7.3.2 The scope of the considerations presented in this Chapter is based on the current Study Area and the Project Description provided in **Chapter 3: The Proposed Development**. Whilst the design of the Proposed Development will continue to evolve, the principles set out within this chapter are intended to provide a flexible framework for the development of the Lighting Strategy and associated mitigation measures. Lighting-related effects will be considered, where relevant, within other environmental topics, including **Chapter 6: Biodiversity** and **Chapter 15: Landscape, Townscape and Visual Impact Assessment**.

23.8 Summary

23.8.1.1 This Chapter has identified residential receptors, users of the surrounding transport network and airport operations as the receptors with the greatest potential to be affected by artificial lighting associated with the Proposed

Development. During the construction, and operational phases, these receptors may experience localised changes in lighting conditions arising from temporary or permanent sources of artificial illumination. However, the Site is located within an established airport and urban environment where the existing night-time baseline is already strongly influenced by extensive artificial lighting associated with Heathrow Airport and the surrounding strategic transport network.

23.8.1.2 A Lighting Strategy will be prepared to establish the framework for the design and management of lighting associated with the Proposed Development. Together with measures secured through the CEMP, this will incorporate lighting design principles and mitigation measures to minimise light spill, glare, sky glow and other forms of obtrusive light, whilst ensuring compatibility with airport operations and aviation safety requirements.

23.8.1.3 Taking account of the established baseline lighting environment, the temporary and intermittent nature of construction lighting, the design-led approach to operational lighting, and the implementation of embedded mitigation measures, significant adverse effects on residential receptors, transport users and airport operations are not anticipated. Any residual effects are expected to be negligible to minor and therefore not significant in EIA terms. Consequently, a standalone assessment of lighting effects within the Environmental Statement is not proposed.

23.8.1.4 Potential effects of artificial lighting on ecological receptors and on landscape, townscape and visual receptors will be considered, where relevant, within C**hapter 6: Biodiversity** and **Chapter 15: Landscape, Townscape and Visual Impact Assessment**, respectively.

Table 23-6: Elements Scoped In/Out for Lighting

Discipline	Scoped In Elements	Scoped Out Elements
Lighting	Biodiversity The impact of obtrusive light onto relevant receptors identified will be assessed within the Biodiversity EIA Scoping Report (**Chapter 6**) Landscape, Townscape & Visual Impact The impact from obtrusive light onto this receptor will be assessed within the Landscape, Townscape & Visual Impact EIA Scoping Report (**Chapter 15**)	Construction Lighting onto human health receptors (residential, transport users, airport operations). Construction Lighting will be managed through principles set out in the CEMP. Operational Lighting onto human health receptors (residential, transport users, airport operations). The design of operational lighting will adhere to the principles set out in the Lighting Strategy.

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Chapter 24

Approach to Cumulative and In-Combination Effects

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24 Approach to Cumulative and In-Combination Effects

24.1 Introduction

24.1.1.1 Paragraph (5) of Schedule 4 of the EIA Regulations[1] states that the ES should provide a description of likely significant effects of the development should be included resulting from:

'the cumulation of effects with other existing and / or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources'

24.1.1.2 The ES will consider the potential for likely significant cumulative effects on the environment. This will include:

- **Cumulative Effects:** the combined effects of other development scheme(s) which may interact cumulatively with the Proposed Development. The effects of committed developments may be insignificant on an individual basis, but cumulatively with the Proposed Development have a new or different likely significant effect (these are referred to as 'cumulative effects'); and
- **In-Combination effects:** the combined effect of individual impacts from the Proposed Development, for example, where a single receptor is affected by noise and traffic disruption during the construction of the Scheme.

24.1.1.3 The assessment will be based on the data available from other committed developments and associated information available in the public domain. Information will also be sought from other developers and LPA, where necessary and possible.

24.1.1.4 The cumulative effects assessment will be undertaken in line with the EIA Regulations and the PINS Advice on Cumulative Effects Assessment[2].

24.2 Cumulative Effects Assessment

24.2.1.1 The good practice approach to the assessment of cumulative effects also requires the inclusion of proportionate information relating to committed developments that are not yet consented, dependent on the level of certainty of them coming forward.

[1] UK Government. The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 No. 572. 2017. Available at: The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (accessed on: 19/08/2026).
[2] The Planning Inspectorate. Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment. September 2024. Available at: Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment - GOV.UK (accessed on: 19/08/2026).

In this regard, the PINS Advice on Cumulative Effects Assessment relevant to nationally significant infrastructure projects[3] is relevant to the Proposed Development. The PINS Advice establishes a four stage approach for assessment as summarised in **Table 24-1**.

Table 24-1:Cumulative Assessment Approach Summary

Stage	Description
Stage 1	**Establishing the long list:** A long list of 'committed developments' will be identified in a tiered approach. To support this process, a ZoI is determined for each discipline. The long list includes key information for each development, together with its assigned tier.
Stage 2	**Establishing the short list:** The long list will be reviewed against the agreed inclusion and exclusion criteria to establish a shortlist of developments for consideration within the Cumulative Effects Assessment (CEA). The shortlist will be shared with statutory and non-statutory consultees during the EIA process for review and comment.
Stage 3	**Information gathering:** A desk study will be undertaken to gather the relevant environmental information (if available) for the identified 'other developments' in the shortlist.
Stage 4	**Assessment:** An assessment of the likely cumulative effects. Where adverse cumulative effects are identified, appropriate mitigation measures will be considered. The relative contribution of effect between the project and other developments will be considered, determining whether impacts can be attributed primarily to a single development or result from the combined influence of multiple schemes.

24.2.2 Stage 1 – Establishing the Long List

24.2.2.1 A ZoI has been identified for each environmental topic, primarily based on the extent of likely effects. Each topic area has used topic-specific guidance along with professional judgement and knowledge of the local area to define their study areas, which informs the geographical ZoI. Discussion of the study area is presented within each of the technical chapters (**Chapters 5-23**). The study area

[3] The Planning Inspectorate. Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment. September 2024. Available at: Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment - GOV.UK (accessed on: 19/08/2026).

and associated ZoI defined for each environmental topic is summarised within **Table 24-2**.

Table 24-2: Summary of the ZoIs defined for each Discipline

Topic	Zone of Influence
Air Quality and Odour	Core Study Area – 14 km x 11 km Wider Study Area – 31 km x 24 km
Biodiversity	Core Study Area – 50 m to 250 m from Scoping Boundary Wider Study Area – 2 km up to 10 km for bats from Scoping Boundary
Ornithology	Core Study Area – 250 m to 1 km from Scoping Boundary Wider Study Area – 10 km up to 25 km for geese and gulls from Scoping Boundary
Greenhouse Gasses	Core Study Area – Scoping Boundary and beyond for upstream and downstream emissions
Climate Change	Core Study Area – Scoping Boundary
Community	Inner Study Area – Scoping Boundary Core Study Area – Local authorities containing communities within the Inner Study Area
Economics and Employment	Inner Study Area – Scoping Boundary Core Study Area – Local authorities containing communities within the Inner Study Area
Recreation	Inner Study Area – Scoping Boundary Recreational Study Area – Recreational routes and assets functionally connected to the Scoping Boundary and those likely to be used by communities within the Inner Study Area
Historic Environment	Core Study Area – 1 km around the Scoping Boundary Wider Study Area – 3 km around the Scoping Boundary
Health	Site-Specific Health Study Area – Scoping Boundary

Topic	Zone of Influence
	Local Health Study Area - Local authorities containing communities within the Scoping Boundary
Landscape, Townscape and Visual Amenity	5 km around the Scoping Boundary
Ground Conditions	Core Study Area – 250 m from the Scoping Boundary Hydrology Study Area – 500 m from the Scoping Boundary
Soils and Agriculture	Core Study Area – Scoping Boundary
Materials and Waste	Core Study Area – Scoping Boundary
Major Accidents and Disasters	Defined according to hazard
Noise and Vibration	Defined according to noise source
Traffic and Transport	Defined according to highways, public transport and non-motorised users
Water Environment	Flood Risk Study Area - 500m Groundwater Study Area – Extent of the Lower Thames Gravels WFD body Surface Water Study Area - the catchments of the WFD surface water bodies within the Colne and Crane operational catchments, but also including catchments of Maidenhead and Sunbury, Brent Rivers and Lakes and Wey and Trib operational catchments that are intersected by elements of the Proposed Development
Lighting	Define according to lighting effects

24.2.2.2 Prior to receipt of the Scoping Opinion and confirmation that the proposed approach for defining each discipline study area is acceptable, the widest ZoI identified is Ornithology which defines a study area of up to 25 km buffer zone beyond the Scoping Boundary.

24.2.2.3 A preliminary cumulative search has been undertaken for an area of 5 km beyond the Scoping Boundary, as shown in **Figure 24-1** and **Figure 24-2**. This area is considered appropriate for the majority of environmental topics. Certain topics, including biodiversity, ornithology, traffic and transport and noise and vibration,

may require larger study areas reflecting the extent of the relevant impact pathways. In such cases, topic-specific cumulative searches will be undertaken beyond the 5 km area and additional developments included where there is a realistic potential for cumulative effects to arise. The cumulative approach specific to each technical topic is presented within **Section X.9.3** of the relevant technical Chapters (**Chapters 5-23**), which includes consideration of any residual cumulative effects and their significance.

24.2.2.4 PINS guidance provides three tiers to assign to the cumulative schemes identified on the long list, as set out in **Table 24-3**. These tiers are based on the level of certainty of an identified development coming forward or being built out, and the level of published detail for the cumulative schemes at the time of the assessment.

Table 24-3: Categories of Certainty for Cumulative Schemes

Tier	Description
Tier 1	• Under construction; • Permitted applications under the Planning Act or other regimes but not yet implemented; • Submitted applications under the Planning Act or other regimes but not yet determined; • All refusals subject to appeal procedures not yet determined.
Tier 2	• Projects on the Planning Inspectorate's programme of projects.
Tier 3	• Projects on the Planning Inspectorates programme of projects where a scoping report has not been submitted; • Proposals identified in the relevant Development Plans and emerging Development Plans, • Proposals identified in other plans and programmes, as appropriate, which set the framework for future development consents or approvals, where such development is reasonably likely to come forward.

24.2.2.5 The tiers listed do not include minor household applications or minor business applications (such as extensions or changes of use), of which there are very large numbers at any given time, and which are not likely to result in significant cumulative effects.

24.2.2.6 To ensure a proportionate approach is taken:

- Tier 1 schemes identified on the Local Planning Authority websites within the ZoI have been screened, to those:
  - Marked as either Granted or Pending;
  - Listed as being over 10 units or more;
  - An area of over 0.5 ha or more; and those
  - Submitted within the last five years (from the date: 01/07/2026).

- All Tier 2 schemes have been identified within a 5 km ZoI of the Scoping Boundary. Due to the limited number of projects located within a 5 km listed on the Planning Inspectorate's programme of projects tier 2 schemes have not been filtered further at this time.
- All Tier 3 schemes have been identified for the LPAs that intersect the Site Boundary (see **Section 3.1**) and further filtered to allocations within the 5km ZoI.

24.2.2.7 The proposed long list of committed developments is presented within **Appendix 24-1**.

Stage 2 – Establishing a Short List

24.2.2.8 The long list of developments will be reviewed against agreed inclusion and exclusion criteria to identify those with the potential to contribute to cumulative effects. Professional judgement will also be applied where appropriate. The resulting shortlist will be discussed with consultees as part of the EIA process. The inclusion criteria will consider the following:

- **Temporal scope:** Review of the construction, operational and decommissioning timescales of the cumulative schemes to identify any overlap in activities and potential for cumulative interactions.
- **Scale and nature of development:** The scale and nature of the cumulative schemes in the ZoI that are likely to interact with the Proposed Development.
- **Other factors**: For example, the sensitivity of the receiving environment.

Stage 3 – Information Gathering

24.2.2.9 A desk-based review will be undertaken to collect relevant environmental information for the shortlisted developments, where available, to inform the cumulative effects assessment and will include:

- The design of the cumulative scheme;
- Location and extent of the cumulative scheme;
- Proposed programme of construction, operation and decommissioning phases; and
- Environmental assessments that set out baseline data and effects arising from the cumulative scheme.

Stage 4 – Assessment

24.2.2.10 The Proposed Development will be assessed in combination with the shortlisted developments to identify potential cumulative effects. Where significant adverse effects are identified, mitigation measures will be considered, and the contribution of each development to the overall effect will be evaluated.

24.2.2.11 The criteria for determining the significance of cumulative effects will be based upon:

- The duration of effect; that is, will it be temporary or permanent;
- The extent of effect: e.g. the geographical area of an effect;
- The type of effect; e.g. whether additive or synergistic;
- The frequency of the effect;
- The 'value' and resilience of the receptor affected; and
- The likely success of mitigation.

24.3 The Cumulative Effects of Further Development of Heathrow Airport

24.3.1.1 The planning context for the Proposed Development is unique in terms of relating to a National Policy Statement that identifies specific parameters for the future expansion of Heathrow Airport, and in turn the Proposed Development, as opposed to those other National Policy Statements that solely provide the policy context for those relevant projects that may come forward. One parameter provided by the Draft Heathrow Airport National Policy Statement set out at paragraph 1.9 is:

"A Northwest Runway having a runway length of up to 3,500m and forming part of a scheme which, on completion, is capable of enabling at least 260,000 additional air transport movements (ATMs) per annum"

24.3.1.2 The Proposed Development includes the construction of a new 2,400m long runway, allowing for the potential future increase of the runway up to 3,500m, which is not sought through this application. As such, it is proposed that increasing the length of the runway through a future application is treated as a Tier 3 cumulative scheme under the criterion provided in the PINS Advice on Cumulative Effects Assessment of:

"*Proposals identified in other plans and programmes, as appropriate, which set the framework for future development consents or approvals, where such development is reasonably likely to come forward.*"

24.3.1.3 In order to ensure the cumulative effects are made clear, the following scenarios will be presented:

1. Each technical chapter will consider the cumulative effects of the Proposed Development and the 3,500m runway extension as a stand-alone cumulative impact scenario;
2. The cumulative effects of the Proposed Development, the 3,500m runway and all other shortlisted schemes will also be assessed; and
3. The cumulative effects of the Proposed Development and all other shortlisted schemes will also be assessed.

24.3.1.4 It is acknowledged that Heathrow Airport Limited (HAL) are in the process of developing alternative proposals to meet the requirements of the Draft Heathrow Airport National Policy and received a Scoping Opinion from the Planning Inspectorate in November 2025 (Planning Inspectorate Ref: TR020003), potentially qualifying those proposals as a Tier 2 cumulative scheme. However, the Proposed Development and HALs proposals are considered to be mutually exclusive, in so far as both DCOs cannot be developed in parallel as they occupy largely the same land. In the event that HAL's scheme was capable of being granted consent in part, due consideration would be given to the cumulative effects of both once the relevant parameters of HAL's consent are established and to the extent not already considered in the above 3,500m runway extension scenarios.

24.4 In-Combination Effects

24.4.1.1 A range of public sector and industry-led guidance is available on the approach to assessing and quantifying in-combination effects that lead to combined effects on sensitive receptors, but at present there is no single, agreed industry standard method. The European Commission (EC) has produced guidelines[4] for assessing in-combination effects which:

'are not intended to be formal or prescriptive but are designed to assist EIA practitioners in developing an approach which is appropriate to a project […]'

24.4.1.2 The Applicant has reviewed these guidelines and has developed an approach which uses the defined residual effects of the Proposed Development to determine the potential for effect interactions to lead to combined effects.

24.4.1.3 The assessment of in-combination effects will be undertaken using a two-staged approach, outlined below.

Stage 1 – Identification of Relevant Receptor Groups

24.4.1.4 Screening is undertaken to identify 'receptor groups' based on whether a sensitive receptor is exposed to more than one type of residual effect during the construction, operation and decommissioning phases of the Proposed Development. Those sensitive receptors that could experience two or more types of residual effects (post-mitigation), with significance of 'minor' or greater, are taken forward to Stage 2 of the assessment.

24.4.1.5 The term 'receptor group' is used to highlight that the approach taken for the in-combination effects assessment does not assess every individual receptor, but rather potentially sensitive groups of receptors identified through the EIA process.

[4] European Commission. Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions. May 1999. Available at: Guidelines for the Assessment of Indirect and Cumulative Impacts as well\ as Impact Interactions (accessed on 19/08/2026).

24.4.1.6 Only receptors that are expected to incur more than one potential effect have been included in the assessment (e.g. noise and dust).

Stage 2 – Assessment of In-Combination Effects

24.4.1.7 Where likely in-combination effects are identified at Stage 1, these will be assessed based on information provided within the discipline chapters and supporting appendices.

24.4.1.8 As this assessment compares both qualitative and quantitative assessment outcomes, professional judgement will be applied to determine the significance of each in-combination effect identified.

24.4.1.9 The evaluation at the receptor level will consider:

- The magnitude of impact at the common receptor;
- Previously-identified sensitivity; and
- Duration and
- Reversibility of interaction.

24.4.1.10 The focus will be on determining a change in the level of effect likely to be experienced and whether this is significant or not.

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Chapter 25

Outline Structure of the Environmental Statement

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25 Overall ES Structure

25.1 Introduction

25.1.1.1 NSIP: Pre-Application Advice on Environmental Impact Assessment [1] states that applicants should provide an outline structure of the ES contents.

25.1.1.2 Regulation 5(2) of the EIA Regulations identifies that the ES must:

"Identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on the following factors—

(a) population and human health;

(b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;

(c) land, soil, water, air and climate;

(d) material assets, cultural heritage and the landscape;

(e) the interaction between the factors referred to in sub-paragraphs (a) to (d)."

25.1.1.3 Whilst the EIA Regulations[2] do not specify a format for the production of Environmental Statements, regulation 14(1) identifies that an application for an order granting development consent for EIA development must be accompanied by an environmental statement and regulation 14(2) identifies that the ES must contain at least:

"(*a) a description of the proposed development comprising information on the site, design, size and other relevant features of the development;*

(b) a description of the likely significant effects of the proposed development on the environment;

(c) a description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;

(d) a description of the reasonable alternatives studied by the applicant, which are relevant to the proposed development and its specific characteristics, and an

[1] Planning Inspectorate. Nationally Significant Infrastructure Projects: Pre-Application Advice on Environmental Impact Assessment. July 2026. Available at: https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-pre-application-advice-on-environmental-impact-assessment (accessed on: 24/08/2026).
[2] The Infrastructure Planning (Environmental Impact Assessment) Regulations (2017). Available at: The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (Accessed: 24/08/2026).

indication of the main reasons for the option chosen, taking into account the effects of the development on the environment;

(e) a non-technical summary of the information referred to in sub-paragraphs (a) to (d); and

(f) any additional information specified in Schedule 4 relevant to the specific characteristics of the particular development or type of development and to the environmental features likely to be significantly affected."

25.1.1.4 Schedule 4 of the EIA Regulations sets out the information for inclusion in Environmental Statements, including at paragraph (4) those topics to be considered as potentially significantly impacted by the development:

"A description of the factors specified in regulation 5(2) likely to be significantly affected by the development: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape."

25.1.1.5 Schedule 4, paragraph (8), requires consideration of Major Accidents and Disasters, stating the following:

"A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned."

25.1.1.6 The ES will describe the EIA process and its findings in line with the EIA regulations, following the structure as outlined in Table 19-1. The ES will contain four main volumes:

- Volume I: ES Non-technical Summary;
- Volume II: ES Main Text;
- Volume III: ES Supporting Figures; and
- Volume IIII: ES Supporting Appendices.

Table 25-1: Outline Structure of the ES

Volume I: ES Non-Technical Summary
Summary of the ES in non-technical language

Volume II: ES Main Text	
Chapter Title	**Likely Content**
Introduction	• Applicant team and competency details; • Background to the DCO Project; • Overview of the features of the DCO Project; • Other assessments (e.g. Airspace Change Process).
Planning policy and legislation	• Legislative context; • National Policy Statements; • National planning policy and guidance; • Development plans; • Other relevant guidance and policies.
Need for the development and alternatives considered	• The need for the development; • Alternatives considered and environmental reasons for choice of preferred options.
The Proposed Development	• Relevant features of the development, size and location; • Associated development; • Other development; • Embedded environmental design measures.
Existing Site and Surroundings	• Description of the existing site and its surroundings.
Approach to preparing the Environmental Impact Assessment	• The EIA process; • EIA scoping and evolution of the DCO Project; • Stakeholder engagement; • Identification of baseline conditions and assessment years; • Overview of assessment methodology; • Approach to significance evaluation; • Approach to cumulative effects assessment; • Airspace Change Process.
Technical topic chapters	See **Table 25-2**.

Volume II: ES Main Text	
Chapter Title	Likely Content
In-combination effects	The potential effects of more than one topic combined, presented at a project wide or community-based level.
Summary & Residual Effects	A summary table of the likely significant effects, residual effects and proposed mitigation (primary, tertiary and secondary).
Glossary	List of specialised words, terms, abbreviations, or concepts along with their definitions.

Volume III: Figures
Figures and plans to support the chapters in Volume II

Volume IV: Technical Appendices
Technical data and reports to support the chapters in Volume II

25.1.1.7 Technical appendices will be identified throughout the EIA process, but are anticipated to include:

- Outline Code of Construction Practice;
- Major Accidents and Disasters Technical Appendix;
- Waste Strategy;
- Historic Environment Desk-based Assessment;
- No Significant Effects Report or (if Appropriate Assessment is required following screening) such as a Habitats Regulations Assessment Report;
- Flood Risk Assessment;
- Water Framework Compliance Assessment;
- Transport Assessment;
- Equality Impact Assessment;
- Lighting Strategy; and
- Survey reports (all topics).

25.2 Technical Assessment

25.2.1.1 It is proposed that each of the ES topic chapters will follow the sub-headings outlined in Table 25-2 so that the final ES is proportionate, transparent and consistent.

Table 25-2: Topic Chapter Format and Content

Sub-Heading	Context
Introduction	This section will introduce the assessment discipline and the purpose for which it is being undertaken.
Planning Policy Context	This section will include a summary of national, regional, and local policies of relevance to the environmental discipline and assessment. Where applicable, relevant legislation will also be summarised.
Assessment Methodology	This section will provide an explanation of methods used in undertaking the technical study with reference to published standards, guidelines and best practice. The application of significance criteria will also be discussed. It will also outline any difficulties encountered in compiling the required information. Where topic specific guidance or regulatory requirements apply, these will be clearly identified and any departures from the overarching methodology explained.
Baseline Conditions	This section will include a description of the environment as it is currently, at the time of writing the ES or at another appropriate point in time. The method used to obtain baseline information will be clearly identified. Baseline data will be collected in such a way that the importance of the particular subject area to be affected can be placed in its context and surroundings so that the effects of the proposed changes can be predicted.
Embedded Mitigation	This section explains the extent of embedded mitigation measures (primary and tertiary) and how these will be effective and set out within each technical chapter. Where the effectiveness is uncertain or depends upon assumptions about operating procedures, data will be provided to justify the assumptions, and monitoring programmes will be proposed, where necessary, to enable subsequent adjustment of mitigation measures as necessary.

Sub-Heading	Context
Assessment of Likely Significant Effects	This section will identify the likely significant effects on the environment resulting from the construction, operational and decommissioning phases of the Proposed Development. This assessment of magnitude, sensitivity and significance of effects takes embedded mitigation into account as an integral part of the Scheme.
Additional Mitigation Measures	Where there are adverse effects anticipated despite the embedded mitigation, additional and specific mitigation measures (secondary) are put forward to seek to minimise or reduce those adverse effects, where practicable. Additional mitigation measures considered may be: • actions that require further activity to achieve a particular outcome, secured for example through development consent requirements, such as lighting limits, that will be subject to the submission of a detailed lighting layout for approval; and • actions that include enhancement measures which improve the environment beyond standard mitigation measures
Residual Effects	The residual effects, i.e., the effects of the Proposed Development assuming implementation of proposed primary, tertiary and secondary mitigation, will be determined. The residual effects represent the overall likely significant effect of the Proposed Development on the environment, having taken account of practicable/available mitigation measures.
Cumulative, In-Combination and Transboundary Effects	Cumulative effects are described in Schedule 4, paragraph 5(2) of the EIA Regulations as: *'the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources'.* In-combination effects between the effects identified for the Scheme which, when taken together, create a combined effect on one or more receptors would be presented separately within the 'In-combination effects' chapter. Whilst transboundary effects are not currently anticipated, this will be confirmed or otherwise identified within this section.

Sub-Heading	Context
Summary	A summary of the assessment and conclusions will be provided at the end of each technical chapter.

Environmental Impact Assessment Scoping Report

Chapter 26

Summary

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26 Summary

26.1 Introduction

26.1.1.1 The scoping exercise has been informed by desk-based research, preliminary assessments, professional judgment and other information available for the Site. The technical chapters (**Chapters 5 - 23**) present the topics that are proposed to be Scoped in/out of the ES, as they have considered the potential for likely significant environmental effects. **Chapters 5 - 23** therefore present pertinent information relating to each topic to form the basis of the scope that will be carried through in the EIA.

26.1.1.2 The following table, **Table 26-1** displays a summary of the likely effects requiring assessment for each topic and those proposed to be scoped out of further assessment.

Table 26-1: Summary of Likely Effects Requiring Assessment

Discipline	Scoped In Elements	Scoped Out Elements
Air Quality and Odour	Impact of emissions from aircraft, airport and road traffic activities associated with the construction and operation of the Proposed Development for human health and ecological receptors. Construction impacts will include the impact of dust on amenity. Amenity impacts on existing sensitive uses resulting from new or relocated emissions sources and associated cumulative/in-combination effects.	Pollutants: SO_2, lead, benzene, carbon monoxide, arsenic, cadmium, nickel and benzo(a)pyrene. Odour impacts on proposed uses.
Biodiversity	Construction/Operation – Temporary or permanent habitat loss, or change of use. Construction – Realignment/diversion/modification of river/stream channels; loss or modification of lakes, ponds, drains, ditches and ephemeral channels. Construction/Operation – Disturbance or displacement of species. Construction/Operation - Disturbance or displacement of nocturnal species. Construction/Operation – Increased vehicular traffic. Construction – Changes to water abstraction discharge and storage. Construction – Construction/alteration of drainage.	Decommissioning

Discipline	Scoped In Elements	Scoped Out Elements
	Construction/Operation – Use of chemicals and liberation of pollutants and fine materials.	
Ornithology	Construction – Temporary habitat loss Construction – Temporary disturbance and/or displacement Operation – Permanent habitat loss Operation – Permanent habitat change (pollution) Operation – Permanent displacement Operation – Permanent collision risk Operation – Permanent barrier effects	Decommissioning – Temporary habitat loss Decommissioning – Temporary disturbance and/or displacement
Greenhouse Gases	Construction – Greenhouse Gas (GHG) Emissions Potential significant effects are anticipated from direct and indirect GHG emissions generated from, for example, the combustion of fossil fuels, emissions associated with electricity and embodied carbon. Operation – Greenhouse Gas (GHG) Emissions Potential significant effects from direct and indirect emissions generated from emissions associated with both ground and air travel for passengers and staff, electricity and other utilities, and other site operations.	Decommissioning – assets with no specific end-of-life that would not otherwise be included in operational maintenance and replacement. Downstream Emissions – onward tourism activities, indirect and induced economic activity.

Discipline	Scoped In Elements	Scoped Out Elements
Climate Change	Impacts from climate hazards on the Proposed Development, including construction workers, temporary construction buildings and compounds, aircraft and airside operations, infrastructure, buildings, structures, surface access, passengers and staff.	Decommissioning Cumulative Effects
Community	<u>Construction:</u> • The potential temporary effect of employment generation and construction activity on the labour market and subsequently the housing market. • Potential effects related to the displacement of tenants and owners of residential property across all tenures as a result of the extent of land required by the Proposed Development (both temporary and permanent land take), including transitional effects. • Potential temporary and permanent effects on the viability, sustainability, and accessibility of all existing and planned physical community facilities and public spaces and community-facing businesses and their users within the ISA where they are displaced by the land needed for the Proposed Development. • Effects on the amenity and quality of homes. • Effects on the catchment or amenity of community facilities or community-facing businesses. • Potential temporary and permanent effects on community cohesion and the nature of communities as a result of change in population characteristics and distribution of homes and physical facilities, including as a result of a	No effects are proposed to be scoped out at this stage.

Discipline	Scoped In Elements	Scoped Out Elements
	temporary construction workforce, and at the operational phase compared with today and future baseline scenarios. • Effects on community cohesion and the nature of communities as a result of change in population characteristics and distribution of homes and physical facilities as result of displacement/loss of homes including uptake of the Wider Property Offer, as well as effects relating to community severance. • Potential temporary/permanent transitional effects on the provision of public services (where relevant) across the wider study area. • Potential effects on the way communities are connect and move due to community severance. <u>Operation:</u> • The potential additional effects on the wider labour market and housing market as a result of operational employment generation • Potential temporary and permanent effects on the viability, sustainability, and accessibility of all existing and planned physical community facilities and public spaces and community-facing businesses and their users within the inner study area where they are displaced by the land needed for the Proposed Development • Effects on community cohesion and the nature of communities as a result of change in population characteristics and distribution of homes and physical facilities, as well as effects relating to community severance	

Discipline	Scoped In Elements	Scoped Out Elements
	• Potential permanent effects on community cohesion and the nature of communities as a result of change in population characteristics and distribution of homes and physical facilities at the operational phase compared with today and future baseline scenarios	
Economics and Employment	<u>Construction:</u> • Potential temporary or permanent displacement of businesses or commercial activity including property, land and minerals • Potential effects on the deliverability of strategic land allocations • Potential effects on sustainability or viability of businesses (including agricultural businesses) resulting from the Proposed Development (such as temporary or permanent loss of catchment population, change in environment, or severance as a result of changes to access) • Disruption to residents and their economic activity, through environmental changes and changes in access (e.g. severance and journey time) to/from employment locations • Potential temporary effect of employment generation and effects on businesses in the construction supply chain • Potential effects of new construction employment on the labour market, skills and training (apprenticeships) • Potential effects on the demand for visitor accommodation <u>Operation:</u> • Potential wider effects on employment and the economy through direct influence (e.g. jobs and businesses	<u>Construction:</u> • Potential effects on house prices <u>Operation:</u> • Potential effects on vitality and viability of local town centres • Potential effects on the deliverability of strategic land allocations • Potential effects on house prices

Discipline	Scoped In Elements	Scoped Out Elements
	supported directly related to the operation of the Airport), indirect influence (growth in business and jobs supported in the Airport's supply chain) and induced influence (jobs and businesses supported as a result of expenditure on goods and services) of expansion • Potential effects of new employment and business generated by the Proposed Development on skills and training (e.g. apprenticeships) in or related to the operational development • Potential additional effects on employment and the economy through catalytic effects at regional and national scale, as a result of improved connectivity resulting in additional trade, foreign direct investment and tourism • Potential for local fiscal and business community effects, specifically local retention of business rates and changes to the composition of the local business base, as a direct result of the Proposed Development) • Potential effects of increased competition on airlines and airline users (profits and fares) • Potential effects on the local and wider economy as a result of significant residual environmental effects which have the potential for economic consequences (including transport/traffic effects)	
Recreation	• Potential temporary and permanent effects on the physical extent, condition and function of recreational routes and spaces • Potential temporary and permanent effects on the ability of users to reach and move between recreational routes and spaces	It is not proposed to scope any recreation effects out at this stage.

Discipline	Scoped In Elements	Scoped Out Elements
	• Potential temporary and permanent effects arising from severance, diversion or realignment of the recreational route network • Potential temporary effects on the amenity and experiential quality of recreational routes and spaces • Potential temporary and permanent effects on the catchment areas and user groups of recreational routes and spaces	
Historic Environment	Direct and indirect impacts to designated and non-designated heritage assets for construction, operation and decommissioning phases.	No elements of the historic environment have been scoped out at this stage.
Health	<u>Health-Related Behaviours:</u> Physical activity outcomes will be considered through the relevant open space, recreation, active travel and accessibility pathways. <u>Social Environment:</u> Construction and operation: housing, relocation and displacement; open space, leisure, play and blue/green infrastructure; transport modes, access and connections; community safety; community identity, culture, resilience and influence; and social participation, interaction and support. <u>Economic Environment:</u> Construction and operation: education and training; employment and income, including access to opportunities,	<u>Health-Related Behaviours:</u> Construction and operation: physical activity as a standalone determinant; risk-taking behaviour; and diet and nutrition. <u>Social Environment:</u> Wider societal infrastructure and resources as a standalone health determinant. Direct effects on community facilities and public services will be assessed in **Chapter 10: Community**, with relevant health implications

Discipline	Scoped In Elements	Scoped Out Elements
	job quality, skills, business effects and the distribution of benefits. <u>Bio-Physical Environment:</u> Construction and operation: climate change and adaptation; air quality, including ultrafine particles; and noise and vibration. Construction only: land quality where disturbance creates a credible population exposure pathway. <u>Institutional and Built Environment:</u> Construction and operation: health and social care services; flooding; and Public Understanding of Risk. Construction only: communicable disease associated with workforce concentration and movement, and pest control. Operation: capacity and resilience of Port Health and wider public-health arrangements. <u>Cumulative and In-Combination Effects</u>: Construction and operation: cumulative effects where the Proposed Development and existing and/or approved developments affect the same population through overlapping or successive changes in scoped-in determinants. In-combination effects from multiple Proposed Development pathways affecting the same population will also be assessed. <u>Decommissioning:</u>	considered through the scoped-in Human Health pathways. <u>Economic Environment:</u> No separate elements scoped out. Detailed economic and labour-market effects will be assessed in **Chapter 11: Economics and Employment** and interpreted for population health where relevant. <u>Bio-Physical Environment:</u> Water quality and availability as a standalone health pathway; direct effects from electromagnetic fields; and operational land-quality effects. These matters will be addressed through the relevant technical assessments, regulatory controls or Public Understanding of Risk, where applicable.

Discipline	Scoped In Elements	Scoped Out Elements
	Foreseeable removal or replacement of components with a defined design life will be considered where a credible population-health pathway is identified.	Institutional and Built Environment: Utilities disruption, hazardous waste, routine aviation-fuel storage and handling, and ionising radiation as standalone health pathways. Operational pest control and routine communicable-disease transmission are also scoped out of separate assessment. Relevant technical risks will be addressed through other ES chapters and regulatory controls, while associated public concern remains within Public Understanding of Risk. Cumulative and In-Combination Effects: Developments or pathways without a credible overlap in affected population, health pathway and timing. Decommissioning:

Discipline	Scoped In Elements	Scoped Out Elements
		A separate project-wide decommissioning assessment is not proposed. The Proposed Development is intended to be permanent and no decommissioning programme or parameters have been defined.
Landscape, Townscape and Visual Impact	<u>Landscape Receptor:</u> National Landscape: ◦ Chilterns National Landscape National Character Area: ◦ NCA 115: Thames Valley, Regional Landscape and Townscape Character Areas: ◦ Colne Valley Regional Park: LCA 3: Cowley to West Drayton, LCA 4: Harmondsworth to Stanwell Moor, LCA 8: Horton and Wraysbury Lowlands, LCA 11: Richings Lowland, LCA 13: River Ash Corridor – Staines. ◦ Hillingdon: LCA 16: Cranford Open Gravel Terrace, LCA 17: Harlington Open Gravel Terrace, LCA 18: Harmondsworth Open Gravel Terrace, TCT 20: Heathrow Commercial Airport, LCA 21: Heathrow Gravel Terrace Infrastructure, TCT 22: Historic Core, TCT 24: Inter-war Suburb / Metroland.	<u>Landscape Receptor:</u> National Character Area: ◦ NCA 129: Thames Basin Heaths ◦ NCA 111: Northern Thames Basin Landscape and Townscape Area that does not directly interact with the Proposed Development: ◦ Landscape and Townscape Character in London Borough of Harrow; ◦ Landscape and Townscape Character in Elmbridge Borough;

Discipline	Scoped In Elements	Scoped Out Elements
	○ Hounslow: TCA 35 Bedford, TCA 36 Cranford and Heston, TCA 37 Feltham, TCA 40 Hounslow West. ○ Spelthorne: LCA 52: Princes Lakes Significant Greenspaces with Urban Areas, TCA 53: Staines, TCA 54: Stanwell. Local Landscape Designation and Green Open Space that directly interact with the Proposed Development: ○ Cranford Country Park, ○ Bedfont Lakes Country Park; ○ Colne Valley Regional Park; ○ Thorney Country Park. Registered Park and Garden: ○ 1466074: Stockley Park, comprising the business park (Phases I and II) <u>Visual Receptor:</u> Visual receptors identified within the ZVI and identified visual receptor groups: ○ Harmondsworth/Sipson ○ West Drayton/Hayes Town ○ Harlington ○ Cranford/ Hounslow ○ Feltham/Ashford ○ Stanwell/Staines ○ Sutton/Slough ○ Iver/Colne Valley	○ Landscape and Townscape Character in Windsor and Maidenhead; ○ Landscape and Townscape Character in Runnymede; ○ Landscape and Townscape Character in London Borough of Richmond Upon Thames; ○ Landscape and Townscape Character in London Borough of Kingston Upon Thames; and ○ Landscape and Townscape Character in London Borough of Brent. Local Nature Reserves, Local Landscape Designations, and Registered Parks and Gardens within the Study Area that do not directly

Discipline	Scoped In Elements	Scoped Out Elements
	○ Wraysbury ○ Poyle/Coln Brooke ○ Richings Park/ Thorney ○ Cooper's Hill/Runnymede ○ Windsor Visual Receptors include: ○ Residents in surrounding settlements; ○ Workers at Heathrow and associated facilities; ○ Users of local PRoW, ○ Cyclists; ○ Users of long distance footpaths, including the Grand Union Canal, Beech Way, Thames Walk, The King's Walk, and London Loop; ○ Users of the road network. Visitors to public open spaces such as Country Parks and monuments: Cranford Countryside Parks.	interact with the Proposed Development. <u>Visual Receptor:</u> Visual receptors located outside the ZVI: ○ Resident and visitors of Richmond; ○ Resident and visitors of Sunbury of Thames; ○ Resident and visitors of Bishopsgate; ○ Resident and visitors of Cherstsey; ○ Resident and visitors of Northolt; and Resident and visitors of Ealing.
Ground Conditions	Mobilisation of existing contamination as a result of ground disturbance during the construction phase, resulting in exposure of human health, groundwater and surface water receptors to contamination.	Discharge (to the ground) of water abstracted as part of dewatering during construction resulting in changes in groundwater quality.

Discipline	Scoped In Elements	Scoped Out Elements
	Construction of piled foundations, excavation of basements, tunnels trenchless crossings and other underground structures during the construction phase resulting in creation of pathways resulting in aquifer mixing and/or exposure of a deeper aquifer to contamination present in a shallower aquifer. Ground disturbance from construction activities during the construction phase resulting in damage to/destruction of geodiversity sites. Construction of the Proposed Development within areas of potentially aggressive ground, unstable ground or geohazards resulting in damage to the structures and infrastructure constructed as part of the proposed development, neighbouring properties and infrastructure. Introduction of new contamination (e.g., leaks and spills) occurring as a result of general construction activities, resulting in exposure of human health, groundwater and surface water receptors to contamination. Unexpected contamination being discovered during general construction activities, resulting in exposure of human health, groundwater and surface water receptors to contamination.	

Discipline	Scoped In Elements	Scoped Out Elements
	Accumulation of landfill gases and vapours within confined spaces during general construction activities, resulting in damage or destruction of buildings and infrastructure or asphyxiation of a human health receptor. Introduction of new contamination (e.g., leaks and spills) occurring as a result of operational activities, resulting in exposure of human health, groundwater and surface water receptors to contamination. Ingress and accumulation of ground gas and volatile vapours in buildings and confined spaces e.g., basements, structures and tunnels resulting in explosion, asphyxiation or exposure during the operational phase.	
Agricultural Land and Soils	<u>Agricultural land:</u> Loss of land of BMV quality Downgrading of agricultural land Loss or impacts on lower quality agricultural land <u>Soils:</u> Loss of Soils Adverse effects on soil structure during construction works Adverse effects on soil structure from construction activity Temporary use or movement of soils <u>Farm business and wider effects:</u>	Impacts on agricultural land at the operation phase. Effects on soils for areas not being managed for agriculture during the operation phase.

Discipline	Scoped In Elements	Scoped Out Elements
	Adverse effects on land-based businesses Construction phase impacts on land businesses Wider implications for food production	Effects on farm businesses within the Scoping Boundary post construction.
Materials and Waste	<u>Construction:</u> Consumption of construction aggregates and other construction materials, potentially reducing their availability for other development. Sterilisation of, or temporary or permanent loss of access to, safeguarded mineral resources. Loss of, or interference with, existing or allocated mineral extraction sites and associated safeguarded mineral infrastructure. Disposal of construction, demolition and excavation waste resulting in loss of available landfill void capacity. Displacement of Lakeside EfW, resulting in the loss, temporary loss or reduction of existing residual-waste treatment/recovery capacity. Combined demand for construction aggregates from the Project and other developments with overlapping construction periods, potentially increasing pressure on aggregate supply, reserves and landbanks. Combined waste arisings requiring landfill disposal from the Project and other developments with overlapping construction	<u>Construction:</u> Waste arising from the extraction, processing and manufacture of construction materials before their delivery to the Project. <u>Construction:</u> Waste arising from the extraction, processing and manufacture of construction materials before their delivery to the Proposed Development. Environmental effects arising from construction and operation of any separate replacement facility (or facilities) required to replace Lakeside EfW. <u>Construction and Operation:</u> Indirect environmental effects where those effects

Discipline	Scoped In Elements	Scoped Out Elements
	periods, resulting in accelerated consumption of available landfill capacity. Operation: Generation of operational waste, including international catering waste and other difficult-to-manage wastes such as confiscated liquids and liquid wastes generated during aircraft maintenance, creating demand for suitable waste-management infrastructure and potentially increasing the quantity of waste requiring disposal. Combined operational waste arisings from the Project and other development, potentially increasing pressure on available landfill capacity	are assessed within the relevant specialist EIA topic chapters. Operation: Waste generated by independent off-site businesses, development or wider activity outside the operational control of HWL, unless a sufficiently direct causal relationship with the Proposed Development can be established and the resulting waste can be reasonably quantified. Relevant committed or reasonably foreseeable development will instead be considered, where appropriate, through the cumulative assessment and future baseline. Decommissioning: The Proposed Development is intended to be permanent and no reasonably foreseeable decommissioning or end-of-

Discipline	Scoped In Elements	Scoped Out Elements
		life phase forms part of the Proposed Development. Quantitative end-of-life materials and waste effects are therefore scoped out. Maintenance, refurbishment and replacement activities will be considered within the operational assessment where relevant. Consumption of materials and generation of waste associated with eventual decommissioning of the Project
Major Accidents and Disaasters	Natural disaster events including: • High Temperatures and heatwaves and drought • Wildfires (in proximity to or directly affecting the Site) • Snow and Icy Conditions • Strong winds, and extreme wind events • Extreme rainfall and subsequent flooding • Lightning MA&D from on-site sources: • Fire and / or explosion • Leaks or spillages of hazardous substances • Loss of utilities • Traffic Incidents	Natural disaster events including: • Seismic hazards, i.e. earthquakes • Geological hazards, i.e. ground stability, landslides and sinkholes • Sea-level rise and tsunamis • Space weather including solar flares and radiation storms

Discipline	Scoped In Elements	Scoped Out Elements
	• Accidents resulting from interface with current airport operations and construction activities • Emergency response activities implemented on the Main Application Site impacting on sensitive receptors • Structural collapse MA&D from off-site sources: • Fire at a neighbouring site • Explosion or structural collapse at neighbouring site • External Aircraft Interference (i.e. lasers, drones) non-malicious • Wake vortex leading to property damage	• Reduced visibility from volcanic ash, sand or fog MA&D from on-site sources: • Bird Strike as a standalone MA&D scenario; • Malicious attacks; terrorism; chemical; biological, radiological and nuclear (CBRN) attacks; cyber attacks (including infrastructure related); explosive devices; malicious drone related incidents. • UXO MA&D from off-site sources: • Disease outbreak / pandemic • Vandalism / terrorism • Civil unrest or protest • Importation of Biological agents
Noise and Vibration	Construction: • Site activities, • Road traffic	Construction and operational road traffic vibration

Discipline	Scoped In Elements	Scoped Out Elements
	• Rail traffic. <u>Operation:</u> • Airborne aircraft • Aircraft ground noise • Road traffic • Rail traffic • Airport fixed noise sources	Hearing Loss
Traffic and Transport	Severance of communities Road vehicle driver and passenger delay Non-motorised user delay Non-motorised amenity (to include fear and intimidation on and by road users) Public transport amenity Road user and pedestrian safety Hazardous / large loads	Air travel Surface access impacts at other airports Temporary impacts lasting less than 4 weeks
Water Environment	<u>Construction:</u> Dewatering during construction. Ground disturbance and sediment/contaminant mobilisation. Spillage/leakage of fuels, lubricants or other chemicals. Increased discharge of foul drainage and increased water demand. Increased flows from surface water runoff and dewatering.	<u>Construction:</u> Tidal flood risk to all receptors <u>Operation:</u> Tidal flood risk to all receptors

Discipline	Scoped In Elements	Scoped Out Elements
	Temporary changes to flood risk caused by increased impermeable surfaces during construction and subsequent increased runoff. Temporary disruption of flood conveyance routes from works or storage of materials and stockpiles in the floodplain or existing drainage networks are disrupted or severed Subsurface works which may lead to altered local groundwater permeability, flow patterns and levels and an increase in groundwater flooding. Potential changes to downstream surface and groundwater flow regimes from watercourse diversions. <u>Operation:</u> Increased run off from impermeable surfaces. Accidental spillage/leakage of fuels, lubricants or other chemicals used during operation including de-icing, firefighting, refuelling and fuel storage. Altering of watercourses and associated hydrological and hydromorphological effects. Increased discharge of foul drainage and increased water demand. Drainage systems resulting in runoff captured and discharged to different catchments. Operation of an on-site Wastewater Treatment works (if required) has the potential to alter flow regimes and influence	

Discipline	Scoped In Elements	Scoped Out Elements
	surface water quality, depending on discharge volumes, receiving water characteristics, and treatment performance. Discharge of treated wastewater to a receiving watercourse may affect water quality characteristics and nutrient loading.	
Lighting	Ecology: The impact from obtrusive light onto this receptor will be assessed within Chapter **6: Biodiveristy** Landscape & Views: The impact from obtrusive light onto this receptor will be assessed within the **Chapter 15: Landscape, Townscape and Visual Impact**.	Construction Lighting onto human health receptors (residential, transport users, airport operations) Operational Lighting onto human health receptors (residential, transport users, airport operations

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Chapter 27

Glossary

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27 Glossary

27.1 Introduction

27.1.1.1 This Chapter contains a list of the definitions and abbreviations used across the EIA Scoping Report and DCO application, as described below:

Section 27.2: Defined Terms, lists defined terms commonly used across the DCO application. At this stage the defined terms are limited to terms required for use within the Scoping Report, the list of defined terms will be expanded as the project progresses and further defined terms are required for consistent use across the DCO application.

Section 27.3: Abbreviations, lists commonly used abbreviations used throughout the Scoping Report. These terms will be listed in full on first use, with later text providing the abbreviated term only.

Section 27.4: EIA Scoping Glossary, lists additional terms used, that are specific to the contents of the Scoping Report. Where EIA scoping glossary terms are adopted as defined terms, to be used consistently across the DCO project, they will be added to the list of defined terms. Terms included within the EIA scoping glossary may be adjusted within the EIA environmental statement glossary, based on feedback provided during consultation and within the scoping opinion.

27.2 Defined Terms

Table 27-1: Defined Terms

Defined Term	Definition
the Applicant	Heathrow West Limited.
Associated Development	This is defined by section 115 of the Planning Act 2008 as 'development which is associated with the principal development', and which is subject to requirements.
DCO Application	An application for consent to undertake a Nationally Significant Infrastructure Project (NSIP) is made to the Planning Inspectorate who will consider the application and make a recommendation to the Secretary of State, who will decide on whether development consent should be granted for the DCO Project.

Defined Term	Definition
DCO Project	A development that is subject to the DCO application.
Development Consent Order (DCO)	This is the means of obtaining permission for developments categorised as Nationally Significant Infrastructure Projects, under the Planning Act 2008.
Effect	Term used to express the consequence of an impact. The significance of an effect is determined by correlating the magnitude of the impact with the importance, or sensitivity, of the receptor or resource in accordance with defined significance criteria. (e.g. the loss of a potential breeding habitat for a protected species or the reduction in local air quality).
EIA Regulations	The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.
HAL DCO Project	The components of the Northwest Runway Scheme being proposed by Heathrow Airport Limited (as currently defined in the Heathrow Airport Limited Airport Expansion Consultation Documents).
Impact	The physical changes to the environment attributable to the Proposed Development.
Magnitude	Considers the characteristics of the change (timing, scale, size, and duration of the impact) which would probably affect the target receptor as a result of the proposed forestry project.
Primary Mitigation	Measures which are designed to be an inherent part of the Proposed Development.
Proposed Development	The Heathrow West project, including all necessary and associated onsite and offsite supporting infrastructure and mitigation, for which development consent is being sought.
Secondary Mitigation	Measures which require further activity to be achieved and do not form an inherent part of the Proposed Development.
Sensitivity	Is understood as the sensitivity of the environmental receptor to change, including its capacity to accommodate the changes the project may bring about.

Defined Term	Definition
Scoping Boundary	The area on which the Proposed Development, being consulted on by Heathrow West Limited is located.
Tertiary Mitigation	Actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental effects.
The Local Planning Authorities (LPAs)	The Local Planning Authorities associated with the Scoping Boundary that fall across the Greater London Authority (GLA) and Surrey County Council (SCC), including: • The London Borough of Hillingdon; • The London Borough of Hounslow; • Spelthorne Borough Council; • Slough Borough Council; • The Royal Borough of Windsor and Maidenhead; • Surrey County Council; • Buckinghamshire County Council; • Runnymede Borough Council; • Richmond Upon Thames Borough Council; and • The London borough of Ealing.

27.3 Abbreviations

Table 27-2: Abbreviations

Abbreviation	Abbreviated Term
AADT	Annual Average Daily Traffic
AA-EQS	Annual Average EQS
AAL	Above Aerodrome Level
ADMS Airport	Atmospheric Dispersion Modelling System Urban Airport
AEP	Annual Exceedance Probability
AGL	Above Ground Level

Abbreviation	Abbreviated Term
AHAP	Area of High Archaeological Potential
AIL	Abnormal Indivisible Load
AIRS	Archaeology Investigation and Research Strategy
ALARP	As Low as Reasonably Practicable
ALBST	Advanced License Bat Survey Techniques
ALC	Agricultural Land Classification
ANA	Archaeological Notification Area
ANGSt	Access to Natural Greenspace Standard
ANPR	Automatic Number Plate Recognition
ANPS	Airports National Policy Statement
AOD	Above Ordinance Datum
AONB	Area of Outstanding Natural Beauty
AP	Aeriel Photography
APA	Arcaheological Priority Area
APF	Aviation Policy Framework
APIS	Air Pollution Information System
APM	Automatic People Mover
APR	Heathrow Fourth Round Climate Adaptation Report
APU	Auxiliary Power Units
AQ	Air Quality
AQFA	Air Quality Focus Area
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Areas
AQOs	Air Quality Objectives

Abbreviation	Abbreviated Term
AQS	Air Quality Strategy
ARG	Amphibian and Reptile Group
ARN	Affected Road Network
ARP	Adaptation Reporting Power
ASHE	Annual Survey of Hours and Earnings
ASR	Annual Status Report
ATC	Air Traffic Control
AuTC	Automatic Traffic Count
ATFM	Air Traffic Flow Management
ATMs	Air Transport Movements
AURN	Automatic Urban Rural Network
AW	Ancient Woodland
B&B	Bed & Breakfast
BA	British Airways
BAA	British Aviation Authority
BAP	Biodiveristy Action Plan
BAME	Black, Asian and Minority Ethnic
BEGL	Below Existing Ground Level
BEIS	Department for Business Energy and Industrial Strategy
BEMS	Building Energy Management System
BGS	British Geological Survey
BMV	Best and Most Versatile
BNG	Biodiversity Net Gain
BNL	Basic Noise Level

Abbreviation	Abbreviated Term
BOD	Biochemical Oxygen Demand
BPM	Best Practical Means
BREEAM	Building Research Establishment Environmental Assessment Method
BS	British Standard
C02	Carbon Dioxide
CA	Conservation Areas
CAA	Civil Aviation Authority
CAGR	Compound Annual Growth Rate
CAP	Civil Aviation Publication
CAS	Clean Air Strategy
CAZ	Clean Air Zone
CBO	Carbon Budget Orders
CC	Competition Commission
CCA	Climate Change Act
CCAP	Climate Change Adaptation Plan
CCC	Committee on Climate Change
CCR	Climate Change Resilience
CCRA	Climate Change Risk Assessment
CDM	Construction Design and Management
CEA	Cumulative Effects Assessment
CEMP	Construction Environmental Management Plan
CERC	Cambridge Environmental Research Consultants Ltd
CFMP	Catchment Flood Management Plan

Abbreviation	Abbreviated Term
CHP	Combined Heating & Power
CIEEM	Chartered Institute of Ecology and Environmental Management
CIRIA	Construction Industry Research and Information Association
CISHA	Council of Independent Scrutiny of Heathrow Airport
CITB	Construction Industry Training Board
CLAIRE	Contaminated Land: Applications in Real Environments
CLASS	Construction, Logistics and Site Support
CLR	Contaminated Land Report
CLRTAP	Convention on Long Range Transboundary Air Pollution
CMS	Construction Method Statement
CO	Carbon Monoxide
CO2e	Carbon Dioxide Equivalent
CoCP	Code of Construction Practice
COMAH	Control of Major Accidents Hazards Regulations
CoP	Code of Practice
CORSIA	Carbon Offsetting Reduction Scheme for International Aviation
CPO	Compulsory Purchase Order
CPZ	Compulsory Purchase Zone
CSA	Core Study Area
CTMP	Construction Traffic Management Plan
CWS	County Wildlife Sites
CWTP	Construction Worker Travel Plan

Abbreviation	Abbreviated Term
DB	Decibel
DBBR	Desk-Based Baseline Report
DCLG	Department for Communities and Local Government
DCO	Development Consent Order
Defra	Department for Environment, Food and Rural Affairs
DESNZ	Department of Energy Security and Net Zero
DETR	Department of the Environment, Transport and the Regions
DfE	Department for Education
DfT	Department for Transport
DLL	District Level License
DMRB	Design Manual for Roads and Bridges
DNO	Distribution Network Operator
DOE	Department of the Environment
DPD	Development Plan Document
DWP	Department for Work and Pensions
EA	Environment Agency
EASA	European Aviation Safety Agency
EC	European Commission
ECoW	Ecological Clerk of Works
eDNA	Environmental DNA
EDP	Environmental Delivery Plan
EEA	European Economic Area
EfW	Energy from Waste

Abbreviation	Abbreviated Term
EIA	Environmental Impact Assessment
EIP	Environmental Improvement Plan
ELC	European Landscape Convention
EPA	Environmental Protection Act
EPR	Environmental Permits Register
EPS	European Protected Species
EPUK	Environmental Protection UK
EQIA	Equality Impact Assessment
EQS	Environmental Quality Standards
ERCs	Emission Reduction Commitments
ES	Environmental Statement
ESS	Employment and Skills Strategy
ET	Environmental Target
EU	European Union
EU ETS	European Union Trading System
FEMA	Functional Economic Market Area
FLL	Functionally Linked Land
FRA	Flood Risk Assessment
FRS	Flood Risk Study
FSA	Flood Storage Area.
FTE	Full Time Equivalent
FWMA	Flood & Water Management Act
GCMS	Gas Chromatography Mass Spectrometry
GCN	Great Crested Newt

Abbreviation	Abbreviated Term
GDP	Gross Domestic Product
GHG	Greenhouse Gases
GI	Green infrastructure
GIA	Gross Internal Area
GiGL	Greenspace information for Greater London
GIS	Geographic Information System
GLA	Greater London Authority
GLAAS	Greater London Archaeology Advisory Service
GLHER	Greater London Historic Environment record
GLVIA	Guidance for Landscape & Visual Impact Assessment
GLTA	Ground Level Tree Assessment
GP	General Practice
ha	Hectare
HAL	Heathrow Airport Limited
HCA	Homes & Communities Agency
HEAR	Heathrow Expansion Appraisal Report
HENPS	Proposed draft revision to the Airports National Policy Statement: To be known as the Heathrow Expansion National Policy Statement
HER	Historic Environment Record
HFC	Hydrofluorocarbon
HGV	Heavy Goods Vehicles
HIA/HA	Health Impact Assessment/ Health Assessment
HLC	Historic Landscape Characterisation
HRA	Habitat Regulations Assessment

Abbreviation	Abbreviated Term
HSI	Habitat Suitability index
HSPG	Heathrow Strategic Planning Group
HWL	Heathrow West Limited
IAG	International Airlines Group
IAQM	Institute for Air Quality Management
IATA	International Air transport Association
ICAO	International Civil Aviation Organization
ICAO CORSIA	Carbon Offsetting Reduction Scheme for International Aviation
IEMA	Institute of Environmental Management and Assessment
IER	Important Ecological Features
IMD	Indices of Multiple Deprivation
IMS	Industrial Methylated Spirits Solution
INNS	Invasive and Non-invasive Species
IoD	Indices of Deprivation
IPCC	Intergovernmental Panel on Climate Change
ISA	Inner Study Area
ISEP	Institute of Sustainability and Environmental Professionals
ISO	International Organization for Standardisation
ITP	Inter Terminal Plaza
JZS	Jet Zero Strategy: Delivering Net Zero Aviation by 2050
LAEI	London Atmospheric Emissions Inventory
LAQM	Local Air Quality Management

Abbreviation	Abbreviated Term
LCA	Landscape Character Area
LCMS	Liquid Chromatography Mass Spectrometry
LCT	Landscape Character Types
LCWIP	Local Cycling and Walking Infrastructure Plans
LEAFPACS	Lake and Equivalent Aquatic Flora Prediction and Classification System
LEMP	Landscape and Ecological Management Plan
LES	London Environment Strategy
LEP	Local Enterprise Partnership
LEV	Low Emission Vehicle
LEZ	Low Emission Zone
LFD	Landfill Directive
LGV	Light Goods Vehicles
LHA	Local Highway Authority
LI	Landscape Institute
LIP	Local Implementation Plan
LLFA	Lead Local Flood Authority
LNR	Local Nature Reserves
LNRS	Local Nature Recovery Strategy
LOAEL	Lowest Observed Adverse Effect Level
LOI	Level of Information
LPA	Local Planning Authority
LPG	Liquified Petroleum Gas
LRN	Load Road Network

Abbreviation	Abbreviated Term
LSA	Local Study Area
LSOA	Lower Layer Super Output Area
LTS	London Transportation Studies
LVIA	Landscape & Visual Impact Statement
LWS	Local Wildlife Site
LZC	Low / Zero Carbon
M&E	Mechanical and Electrical
MAC-EQS	Maximum Allowable Concentration EQS
MA&D	Major Accidents and Disasters
MAGIC	Multi-Agency Geographic Information for the Countryside
MHCLG	Ministry of Housing, Communities and Local Government
MMP	Materials Management Plan
MoRPh	Modular River Physical
MP	Member of Parliament
mppa	Millions of Passengers Per Annum
MRN	Major Road Network
MSA	Mineral Safeguarding Area
MSCP	Multi-Storey Car Park
MSW	Municipal Solid Waste
MTS	Mayor's Transport Strategy
N2O	Nitrous Oxide
NAEI	National Atmospheric Emissions Inventory
NAP	National Adaptation Programme

Abbreviation	Abbreviated Term
NAQO	National Air Quality Objective
NATS	National Air Traffic Services
NBN	National Biodiversity Network
NBW	Night-time Bat Walkovers
NCA	National Character Area
NCN	National Cycle Network
NE	Natural England
NECD	National Emissions Ceilings Directive
NECR	National Emission Ceilings Regulation
NEET	Not in Education, Employment or Training
NERC	Natural Environment and Rural Communities Act 2006
NERG	Noise Expert Review Group
NH	National Highways
NH_3	Ammonia
NHLE	National Heritage List for England
NHS	National Health Service
NIPG	National Infrastructure Planning Guidance
NL	National Landscape
NMVOC	Non-Methane Volatile Organic Compounds
NNNPS	National Networks National Policy Statement
NNR	National Nature Reserve
NO2	Nitrogen Dioxide
NOEL	No Observed Effect Level
NOx	Oxides of Nitrogen

Abbreviation	Abbreviated Term
NPPF	National Planning Policy Framework
NPPG	National Planning Policy Guidance
NPS	National Policy Statement
NPSE	Noise Policy Statement for England
NPV	Net Present Value
NRAP	Nature Recovery Action Plan
NRFA	National River Flow Archive
NRMM	Non-road Mobile Machinery
NSIP	Nationally Significant Infrastructure Project
NVC	National Vegetation Classification
NVQ	National Vocational Qualification
O&M	Operation & Maintenance
oCEMP	Outline Construction Environmental Management Plan
oCWTP	Outline Construction Workforce Travel Plan
oCTMP	Outline Construction Traffic Management Plan
ODN	Ordnance Datum Newlyn
ODPM	Office of The Deputy Prime Minister
OECD	Organisation for Economic Co-operation and Development
OEMP	Operational Environmental Management Plan
oLEMP	Outline Landscape and Ecological Management Plan
ONS	Office of National Statistics
oOEMP	Outline Operational Management Plan
OPDC	Old Oak Common and Park Royal Development Corporation

Abbreviation	Abbreviated Term
OS	Ordnance Survey
P&R	Park and Ride
PA 2008	The Planning Act 2008
PCM	Pollution Climate Mapping
PEA	Preliminary Ecological Appraisal
PEI	Preliminary Environmental Information
PEIR	Preliminary Environmental Information Report
PFRA	Preliminary Flood Risk Assessment
PHE	Public Health England
PIA	Planning and Infrastructure Act
PINS	Planning Inspectorate
PM2.5 and PM10	Particulate Matter ≤2.5 µm and ≤10 µm
POP	Persistent Organic Pollutants
PPE	Personal Protective Equipment
PPG	Planning Practice Guidance
PPMP	Pollution Prevention and Management Plan
PRA	Preliminary Risk Assessment
PRoA	Preliminary Roose Assessment
PRCs	Perfluorocarbons
PRoW	Public Right of Way
PSDH	Project for the Sustainable Development Heathrow
RBMP	River Basin Management Plan
RCPs	Representative Concentration Pathways
RICS	Royal Institute of Chartered Surveyors

Abbreviation	Abbreviated Term
RICT	River Invertebrate Classification Tool
RIGS	Regionally Important Geological Site
RIVPACS	Lake and Equivalent Aquatic Flora Prediction and Classification System
RPG	Registered Park and Garden
RSA	Recreational Study Area
$S0_2$	Sulphur Dioxide
SAC	Special Area of Conservation
SAF	Sustainable Aviation Fuels
SANG	Suitable Alternative Natural Green Space
SAS	Surface Access Strategy
SCC	Surrey County Council
SEND	Special Educational Needs and Disability
SEWPAG	Southeast Waste Planning Advisory Group
SFRA	Strategic Flood Risk Assessment
SRFIs	Strategic Rail Freight Interchanges
SINC	Site of Importance for Nature Conservation
SIP	Strategic Infrastructure Plan
SOAEL	Significant Observed Adverse Effect Level
SoCC	Statement of Community Consultation
SoP	Standard of Protection
SoS	Secretary of State
SPA	Special Protection Area
SPG	Supplementary Planning Guidance

Abbreviation	Abbreviated Term
SPP	Special Protection Plan
SPZ	Source Protection Zone
SRMP	Soil Resource and Management Plan
SRN	Strategic Road Network
SSSI	Site of Special Scientific Interest
SuDS	Sustainable Drainage System
SWDS	Surface Water Drainage Strategy
SWMP	Site Waste Management Plan
SWT	Surrey Wildlife Trust
T5	Terminal 5
T6A	Terminal 6A
T6B	Terminal 6B
TA	Transport Assessment
TCA	Townscape Character Area
TCT	Townscape Character Type
TfL	Transport for London
TRRL	Transport & Roads Research Laboratory
TS	Transport Study
TVERC	Thames Valley Environmental Records Centre
UFPs	Ultrafine Particles
UGF	Urban Greening Factor
UK	United Kingdom
UKADS	United Kingdom Airspace Design Service
UK CCRA	UK Climate Change Risk Assessment

Abbreviation	Abbreviated Term
UK CP	UK Climate Projections
UNECE	United National Economic Commission for Europe
UNFCC	United Nations Framework Convention on Climate Change
UXO	Unexploded Ordnance
VL	View Locations
VOCs	Volatile Organic Compounds
W&CA	Wildlife and Countryside Act
WAC	Waste Acceptance Criteria
WCC	White-clawed Crayfish
WEEE	Waste electrical & Electronic Equipment
WFD	Water Framework Directive
WHO	World Health Organisation
WHS	World Heritage Site
WLWP	West London Waste Plane
WPO	Wider Property Offer
WSI	Written Scheme of Investigation
WWT	Wildfowl & Wetlands Trust
WWTW	Waste Water Treatment Works
ZoI	Zone of Influence
ZTV	Zone of Theoretical Visibility
ZVI	Zone of Visual Influence

27.4 EIA Scoping Glossary

Table 27-3: EIA Scoping Glossary

Term	Definition
Above Ground Level	Measures height from the identified ground level.
Above Ordinance Datum	Refers to a height measurement expressed in relation to the Ordnance Datum (OD), which is a vertical datum used by the Ordnance Survey for deriving altitudes on maps.
Access to Natural Greenspace Standards	Accessible Natural Greenspace Standards provide benchmarks for the size, proximity, quality, and capacity of green spaces to ensure everyone can access nature within urban and residential areas.
Air Pollution Information System	The Air Pollution Information System (APIS) is a comprehensive tool designed to provide information on air pollution, its impacts, and the strategies being developed to address it. It offers a searchable database and critical load and level data for designated features across protected sites.
Air Quality Action Plan	An Air Quality Action Plan (AQAP) is a statutory strategy developed by local authorities to reduce air pollution, protect public health, and improve environmental quality.
Air Quality Management Areas	Designated areas in which there are exceedances of pollutants in which developments must employ extra measures and precautions to protect air quality.
Air Quality Objectives	The Air Quality Objectives (AQOs) are set by the Government to ensure that air quality is maintained at an acceptable level to protect public health and the environment. These objectives are based on the World Health Organization's (WHO) Global Air Quality Guidelines (AQGs) and are reviewed at least once every five years.
Air Traffic movements	A measure of aircraft activity including the landing or take-off of an aircraft engaged in the commercial transport of passengers, freight or mail.
Airport Supporting Facilities	Refers to development such as maintenance facilities, hotels and drainage facilities that directly support the operations of the airport.

Term	Definition
Airports National Policy Statement	The Airports National Policy Statement (ANPS) outlines the UK government's framework for airport expansion and development. It serves as the primary basis for decision-making on development consent applications, particularly for the expansion of Heathrow Airport's runway capacity. The ANPS emphasises cost-effectiveness, minimizing the burden on passengers, and aligning with legal obligations on air quality and environmental protection.
Annual Average Daily Traffic	The measure of averaged daily traffic per day across a year (including weekends) within a specific area.
Annual Exceedance Probability	The probability where flood level will exceed expected levels.
Area of Outstanding Natural Beauty	AONBs are designated areas in England and Wales that are protected for their natural beauty and conservation. These areas are managed to provide a balance between the protection of the environment and the enjoyment of the public. The designation aims to conserve and enhance the natural beauty of the area, ensuring that it remains a living place for future generations.
Around The End Taxiways	An end-around taxiway (EAT) is a type of taxiway designed to reduce the risk of runway incursions by allowing aircraft to bypass active runways without crossing them. EATs encircle the end of a runway, enabling aircraft to taxi around the runway's perimeter, which is particularly beneficial in airports with parallel runways. This design helps to improve safety, reduce delays, and enhance operational efficiency by minimizing the need for runway crossings.
Authorised Vehicle Area	The Authorised Vehicle Area (AVA) at Heathrow Airport is a designated loca tion for private hire vehicles and licensed taxis to wait for passengers before picking them up.
Automatic People Mover	Small scale automated train system to move passengers and colleagues to terminals from the Parkways, or between the terminals.
Basic Noise Level	Basic Noise Level is the level of noise in the surrounding environment.
Biodiversity Net Gain	Biodiversity Net Gain is an approach to development that makes sure habitats for wildlife are left in a measurably better state than they were before the development. Government proposes introducing Biodiversity Net

Term	Definition
	Gain (BNG) for Nationally Significant Infrastructure Projects (NSIPs) in May 2026 as noted in their consultation paper published in May 2025.
British Geological Survey	A geoscience centre for survey and monitoring, modelling and research, data and knowledge in the United Kingdom.
Civil Aviation Authority	The organisation which oversees and regulates all aspects of civil aviation in the United Kingdom.
Code of Construction Practice	A document detailing the overarching principles of construction, contractor protocols, construction-related environmental management measures, pollution prevention measures, the selection of appropriate construction techniques and monitoring processes.
Compulsory Purchase Order	A legal function that allows certain bodies to obtain land or property without the consent of the owner.
Compulsory Purchase Zone	A designated area in which land or property can be acquired by a Compulsory Purchase Order.
Construction Traffic Management Plan	The Construction Traffic Management Plan specifies the management of construction vehicles and worker travel associated with the construction period of the Scheme. An Outline Construction Traffic Management Plan (OCTMP) will be submitted alongside the DCO Application and secured by DCO Requirement.
Construction Worker Travel Plan	A framework for a Construction Worker Travel Plan (CWTP) will be developed as part of the OCTMP to demonstrate sufficient measures can be put in place to minimise and manage the environmental and traffic impacts from the construction phase of the Scheme. That framework will be developed through the discharging of the Requirement for the CTMP.
Design Manual for Roads and Bridges	Design Manual for Roads and Bridges
Development Consent Order	A Development Consent Order (DCO) single, unified legal permission that authorises the construction and operation of a Nationally Significant Infrastructure Project (NSIP) in England or Wales, combining planning permission with multiple other consents into one order. A DCO can also

Term	Definition
	include provisions authorising the Compulsory Acquisition of land or of interests in or rights over land which is the subject of an application.
Ecological Impact Assessment	The process through which the potential impacts of the Proposed Development are identified and assessed through ecological surveys.
Environment Agency	A non-departmental public body with responsibilities relating to the protection and enhancement of the environment in England.
Environment Impact Assessment Regulations	The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.
Environmental DNA	Genetic material left by organisms in the environment.
Environmental Impact Assessment	A statutory process by which certain planned projects must be assessed before a formal decision to proceed can be made. It involves the collection and consideration of environmental information, which fulfils the assessment requirements of the EIA Directive and EIA Regulations, including the publication of an Environmental Impact Assessment Report or Environmental Statement.
Environmental Impact Assessment Directive	European Union Directive 2011/92/EU (as amended by Directive 2014/52/EU)) on the assessment of the effects of certain public and private projects on the environment.
Environmental Protection Act 1990	An Act of the Parliament of the United Kingdom that defines the fundamental structure and authority for waste management and control of emissions into the environment.
Environmental Protection UK	An environmental Non-Governmental Organization (NGO) working to improve the quality of the local environment in the United Kingdom.
Environmental Statement	A document reporting the findings of the EIA and produced in accordance with the EIA Directive as transposed into UK law by the EIA Regulations

Term	Definition
European Aviation Safety Agency	The European Union agency responsible for civil aviation safety by providing certification, regulation and standardisation.
European Economic Area	A free trade zone between the European Union and the European Free Trade Association.
European Union	A political and economic union of 28 member states that are located primarily in Europe.
Flood Risk Assessment	Assesses the risk of the Scheme on increasing flood risk and the initial flood risk of the Site.
Full Time Equivalent	The ratio of the total number of paid hours during a period (part time, full time, contracted) by the number of working hours in that period Mondays through Fridays.
Global Warming Potential	A measure of how much heat a greenhouse gas traps in the atmosphere up to a specific time horizon, relative to carbon dioxide.
Greater London Authority	The devolved regional governance body of London, with jurisdiction over both counties of Greater London and the City of London.
Green infrastructure	A network of multi-functional green space, urban and rural, which is capable of delivering a wide range of environmental and quality of life benefits for local communities
Greenhouse Gas	Gases in the earth's atmosphere such as carbon dioxide that trap heat.
Habitat Regulations Assessment	The process used to decide whether a plan or project can be authorised where it may affect a specially protected habitats site. It is governed by the Conservation of Habitats and Species Regulations 2017.
Heathrow Airport Limited	The current owners and operators of Heathrow Airport.
Heathrow Area	A partnership with a goal of improve accessibility and increasing public transport use to and from Heathrow Airport and the surrounding area.

Term	Definition
Transport Forum	
Heathrow Strategic Planning Group	A group that represents local authorities and other public organisations responsible for planning the land use, transport, environment, economic development and sustainable development of the sub-region surrounding Heathrow Airport
Heavy Duty Vehicle	Any vehicle over 3.5tonnes (includes Heavy Goods Vehicles, buses, and coaches).
Heavy Goods Vehicles	A lorry of over 3,500kg.
Hectare	A unit measure equal to 100 ares.
Historic Environment Record	Information services that seek to provide access to comprehensive and dynamic resources relating to the historic environment of a defined geographic area for public benefit and use.
Institute of Environmental Management and Assessment	An international membership organisation established to promote best practice standards in environmental management, auditing and assessment
International Civil Aviation Organisation	The International Civil Aviation Organisation is a specialised agency of the United Nations that sets the principles and techniques of international air navigation to foster the planning and development of international air transport.
Landscape and Ecological Management Plan	A LEMP will provide details of planting and enhancements and will set out how these measures will be implemented and maintained. An outline Landscape and Ecological Management (oLEMP) Plan will be submitted with the DCO Application and will be secured by DCO Requirement.
Landscape Character Area	Defines a specific area by natural, cultural and landscape features.

Term	Definition
Landscape Character Types	Categorise landscapes that share characteristics such as geology, vegetation and land use.
Lead Local Flood Authority	The local authority responsible for managing local flood risks from surface water, groundwater, and ordinary watercourses in its area under the Flood and Water Management Act 2010.
Light Goods Vehicles	A lorry or van under 3,500kg.
Local Highway Authority	The authority responsible for managing and maintaining the public highway network.
Local Nature Reserves	Protected area of ecological interest designated by the local authority.
London Underground Limited	The operator of the underground tube network in London.
Major Road Network	Principal road links within the local road network – managed by the LHA.
National Air Quality Objective	Target values for air quality that are set nationally to protect human health.
National Character Area	Large-scale landscapes in England as defined by their natural, cultural and geographic features.
National Cycle Network	Network of paths and routes for walking, wheeling and cycling in the UK.
National Heritage List for England	Register of all nationally protected historic buildings and sites in England.

Term	Definition
National Planning Policy Framework	The documentation that sets out the Government's planning policies and how these should be applied.
National Policy Statement for National Networks	A Government policy that sets out the need for, and the Government's policies to deliver, development of Nationally Significant Infrastructure Projects on the national road and rail networks in England
Nationally Significant Infrastructure Project	These are major infrastructure developments as classified by the Planning Act 2008 and require development consent from the relevant Secretary of State.
Natural Environment and Rural Communities Act 2026	UK law which aims at enhancing biodiversity, conserving natural resources and promoting sustainable land management.
Northern Perimeter Road	The existing road running along the northern perimeter of Heathrow Airport.
Office of National Statistics	An independent producer of official statistics and the recognised national statistical institute of the United Kingdom.
Operational Environmental Management Plan	A structured plan that guides the management, monitoring, and mitigation of environmental impacts during the operational phase of a facility or project. An Outline (oOEMP) version will be submitted with the DCO Application and will be secured by DCO Requirement.
Ordnance Datum Newlyn	The vertical elevation measured relative to a common point for mainland UK.
Ordnance Survey	The national mapping agency in the United Kingdom.

Term	Definition
Park and Ride	A car park with public transport connections.
Percentage Annual Exceedance Probability	A statistical measure of the probability of a flood event occurring in a year.
Planning Act (PA) 2008	The Planning Act 2008 establishes a process for obtaining planning permission for NSIPs.
Planning Inspectorate	The Planning Inspectorate is an executive agency of the Ministry of Housing, Communities and Local Government of the United Kingdom Government with responsibility for making decisions and providing recommendations and advice on a range of land use planning-related issues across England and Wales.
Pre-Construction Information Pack	Contains information used by the PC to prepare construction and decommissioning phase risk assessments and method statements which will be informed by appropriate assessment work
Preliminary Ecological Appraisal	An initial survey which assesses the habitats on the Site that could be potentially impacted by the Proposed Development.
Preliminary Environmental Information Report	Preliminary Environmental Information is defined in the EIA Regulations as: 'information referred to in regulation 14(2) which: (a) has been compiled by the Applicant; and (b) is reasonably required for the consultation bodies to develop an informed view of the likely significant environmental effects of the development (and of any Associated Development)'.
Preliminary Flood Risk Assessment	High-level evaluation of flood risk from rivers, the sea, and reservoirs, used to identify areas with significant potential impacts on people, property, and the environment, prepared by the Local Planning Authority
Principal Contractor	Appointed to plan, mange, monitor and coordinate health and safety during the pre-construction and construction phases.

Term	Definition
Private Registered Provider	An organisation (such as a housing association, charity, or for-profit company) that is registered with the Regulator of Social Housing to supply low-cost rental accommodation in England.
Private Rented Sector	Housing that is privately owned and leased to tenants, rather than being provided by the government or social housing providers.
Public Right of Way	PRoW comprises Footpaths (FP) and Bridleways (BW) as set out on the definitive map for each locality.
Representative Concentration Pathways	Used to develop climate change projections which will result in a different range of global mean temperature increases until 2099.
Right of Way	The legal right to pass along a specific route through grounds or property belonging to another.
Roadside Nature Reserves	Specific stretches of roadside managed to support and protect habitats and species.
Runway Access Taxiway	A taxiway providing access to the runway from the parallel taxiway(s).
Significant Observed Adverse Effect Level	The Significant Observed Adverse Effect Level is a noise level in which a significant effect on nearby receptors would occur.
Site of Special Scientific Interest	A formal conservation designation that describes an area of particular interest to science.
Site Waste Management Plan	A plan that identifies the types and quantities of waste expected to arise during construction and sets out measures for its prevention, reduction, reuse, recycling, recovery, storage, transportation and disposal in accordance with the waste hierarchy and relevant legislation
Soil Resource	A management plan detailing construction, operation and decommissioning measures for ensuring the quality and protection of soils within these

Term	Definition
and Management Plan	phases. An outline version of this plan will be submitted with the DCO Application and will be secured by DCO Requirement
Special Area of Conservation	A protected site to conserve rare or important habitats, pants and animals.
Special Protection Area	A designation under the European Union Directive on the Conservation of Wild Birds (2009/147/EC)
SSSI Impact Risk Zones	Identified areas surrounding an SSSI designation which have the potential to impact the designation.
Statement of Community Consultation	A statement setting out how the Applicant proposes to consult people living in the vicinity of the Proposed Development as prescribed by the Planning Act 2008.
Strategic Flood Risk Assessment	Study prepared by a Local Planning Authority that maps and describes flood risk across its area and from every source: rivers, the sea, surface water, groundwater, sewers and reservoirs.
Strategic Road Network	The Strategic Road Network comprises motorway and some A roads, managed and operated by Highways England.
Sustainable Drainage System	A collection of water management practices that aim to align modern drainage systems with natural water processes.
Taxiway	The route for aircraft between runway(s) and other airport areas and facilities.
Transport Assessment	Assesses the impact of the Scheme on the local transport network. The TA will be submitted with the ES.
Transport for London	A local government body responsible for the transport system in Greater London.
Unexploded Ordnance	The explosive remnants of an unexploded weapon.

Term	Definition
Water Framework Directive	Water Framework Directive (Council Directive 2000/60/EC which establishes a framework for community action in the field of water policy) was adopted by the European Commission in December 2000. The Water Framework Directive requires that all European Union Member States must prevent deterioration and protect and enhance the status of aquatic ecosystems.
Western Perimeter Road	The existing road running along the western perimeter of Heathrow Airport.
Wider Property Offer Zone	The area for which the applicant will make commitments as part of the wider offer of mitigations against impacts on property. An area in which the direct and indirect impacts relating to potential displacement/loss of property applies.