

3 EIA Methodology

3.1 Introduction

3.1.1 This chapter sets out the scope and methodology adopted in the EIA process. It explains how the scope of the EIA was defined, the baseline assumptions, methods used to assess the environmental effects and the general criteria used to evaluate their significance. The methodology applied to each of the technical impact assessments is set out in each technical chapter.

3.1.2 This chapter is accompanied by the following appendices:

- Appendix 3.1: Location of Specified Information in the ES;
- Appendix 3.2: EIA Scoping Report (March 2025);
- Appendix 3.3: SADC EIA Scoping Opinion (May 2025) and Consultation Responses; and
- Appendix 3.4: Schedule of Cumulative Schemes.

3.2 Regulatory Requirements and Good Practice

3.2.1 This ES was prepared to comply with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017¹ (as amended)^{2,3} (the 'EIA Regulations'). The information required for inclusion in an ES is defined by Regulation 18(3 - 5) and Schedule 4 of the EIA Regulations. Appendix 3.1 sets out these information requirements together with their location within the ES.

3.2.2 Good practice guidance documents were also considered when undertaking this EIA including:

- Guidelines for Environmental Impact Assessment: Institute of Environmental Management and Assessment ('IEMA')⁴;
- IEMA Special Report: The State of Environmental Impact Assessment Practice in the UK⁵;
- ISEP Guidance:
 - Implementing the Mitigation Hierarchy from Concept to Construction⁶;
 - Delivering Proportionate EIA⁷;
 - EIA – Shaping and Delivering Quality Development⁸;
 - Effective Non-Technical Summaries for EIA⁹;
- PINS Advice Note 17: Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment¹⁰; and

ⁱ Now known as the Institute of Sustainability and Environmental Professionals ('ISEP')

- Topic specific guidance referred to in each technical chapter of this ES where appropriate.

3.2.3 Each technical assessment followed respective national and local planning policy and guidance as appropriate to their discipline including:

- National Planning Policy Framework (2024) ('NPPF') (as amended February 2025);
- Planning Practice Guidance ('PPG') – Environmental Impact Assessment¹¹; and
- Draft SADC Local Plan (2024) (Regulation 19), including Main Modifications.

3.2.4 All contributors to the ES confirmed that Generative Artificial Intelligence ('GenAI')ⁱⁱ software was not used in the production of documents.

3.3 Design and EIA Interface

3.3.1 The EIA was undertaken in parallel with the design process. Baseline studies and a range of technical and environmental studies/surveys were undertaken to inform the masterplan which was refined through additional technical studies and engagement with stakeholders.

3.3.2 An iterative approach was taken to environmental assessments with initial testing and analysis used to identify measures to avoid, mitigate or as a last resort compensate adverse environmental effects. This included landscape and visual appraisal to inform building heights, noise modelling, heritage site walkovers, ecological and arboricultural surveys, initial Biodiversity Net Gain analysis, and hydraulic modelling. Further information on how environmental issues influenced the design is provided in Chapter 4: Alternatives.

3.3.3 Opportunities for enhancement, such as incorporating biodiversity features into the design and landscape considerations, were also identified through the EIA process.

3.3.4 The Applicant and design team also worked closely with The Crown Estate to ensure alignment between the Development proposals and their proposals for East Hemel Hempstead which are subject to a separate planning application.

3.4 Scope of the EIA

3.4.1 The EIA Regulations require the ES to consider only the '*likely significant environmental effects*' of a development. UK Government's online PPG highlights the expectation that the ES should remain '*proportionate*' and focus on the '*main*' or '*significant*' environmental effects only.

3.4.2 The purpose of the EIA scoping process is to identify the likely significant environmental consequences of the EIA development and the level of detail of the information to be provided in the ES. An applicant who intends to submit an EIA application may ask the local

ⁱⁱ GenAI systems are systems which combine a powerful large language model with a user interface application layer to generate text, images, video or code outputs (completions or responses) in response to a user's prompt (input, questions or instructions).

planning authority to state their opinion as to the scope and level of detail of the information to be provided in the ES in accordance with Regulation 15 of the EIA Regulations.

- 3.4.3 A request for a scoping opinion was submitted by the Applicant to SADC on 27 March 2025. An EIA Scoping Report (the ‘Scoping Report’) accompanied the request and identified the proposed topics and approach to the assessments during the EIA process (see Appendix 3.2). The Scoping Report also provided justification for ‘scoping out’ certain topics from the EIA, because the Development would have either no influence on these environmental aspects or it is unlikely to result in significant effects.
- 3.4.4 A scoping opinion (the ‘Scoping Opinion’) was issued by SADC on 29 May 2025 which also reflected comments from statutory consultees (see Appendix 3.3). The Scoping Opinion confirmed that SADC were in agreement with the proposed scope methodology of the EIA as set out in the Scoping Report. The topics included in the ES are listed in Table 3.1.

Table 3.1: EIA Scope (Technical Chapters)

Topics	
Socio-economics (Chapter 7)	Biodiversity (Chapter 13)
Human Health (Chapter 8)	Cultural Heritage (14)
Transport and Access (Chapter 9)	Climate Change (Chapter 15)
Air Quality (Chapter 10)	Agricultural Land and Soil (Chapter 16)
Noise and Vibration (Chapter 11)	Landscape and Visual Impacts (Chapter 17)
Water Resources, Flood Risk and Drainage (Chapter 12)	

- 3.4.5 In their Scoping Opinion, SADC made specific comments which are addressed in each technical chapter (Chapters 7 – 17) under the sub-heading ‘Consultation’.
- 3.4.6 In accordance with the EIA Regulations (Regulation 18(4(a))), the ES must be based on the Scoping Opinion in so far as the proposed development remains materially the same as that which was subject to the opinion. It should be noted that the Scoping Report was prepared for the full extent of the draft site allocation of Site H1 which extends to approximately 152ha and includes land additional to the east of the Site (as shown on Figure 1.1 of the Scoping Report) including Great Revel End Farm. This is because at the time of scoping, the proposals for access and provision of a Strategic Alternative Natural Greenspace (SANG) were indicative and had not been confirmed. The Site area has since been reduced to 105.59ha as land to the east has been removed although this is not material to the scope of the EIA. The description of development proposals has not materially changed since preparation of the Scoping Report.
- 3.4.7 Topic specific cumulative inter-project effects and, where relevant, in-combination effects (intra-project effects) are assessed in each topical chapter. Combined effects on receptor groups from multiple topics (intra-project effects) are considered within Chapter 18: Effect Interactions.

3.5 Consultation

- 3.5.1 Prior to the submission of the Scoping Opinion, discussions were held with SADC planning and technical officers to discuss the general approach to the EIA, scope of the ES and approach to technical surveys and assessments. During the statutory consultation period related to the Applicant’s Scoping Opinion request, SADC consulted with a range of consultees who provided comment on the proposed scope and approach of the EIA as set out in the Scoping Report. These consultation responses are included in Appendix 3.3.
- 3.5.2 A summary of the key issues raised during consultation which is relevant to the EIA process and how these are addressed in the EIA is provided in the ‘Assessment Methodology - Consultation’ section of each technical chapter.
- 3.5.3 Extensive consultation was undertaken by the project team during the EIA and design process with statutory consultees and other key stakeholders. This included pre-application meetings with SADC, Hertfordshire County Council (HCC) (Highways and Lead Local Flood Authority), National Highways, Historic England, Natural England and The Crown Estate.
- 3.5.4 A series of public consultation events were held in the lead-up to this submission. The first round of consultation was held both online and in-person between 14 July and 1 August. The second round of consultation consisted of an online consultation hosted on the project website between 1 and 19 October 2025.
- 3.5.5 The first round of public consultation included two in-person public exhibitions that took place on 14 July 2025 at the Aubrey Park Hotel and on 16 July at Brockswood Primary School. The Applicant also hosted a consultation website where feedback could be provided by members of the public (<https://northhemel.co.uk/home/>). The second round of public consultation took place online in September and October 2025.
- 3.5.6 Further details of the pre-application consultation events and feedback received is provided in a Statement of Community Involvement, which accompanies the planning application.

3.6 Defining the Baseline

Study Area

- 3.6.1 The study area, also known as the spatial Zone of Influence (Zol), for each topic is based on the geographical scope of the potential impacts relevant to the topic or the information required to assess the likely significant effects, as well as topic specific guidance and consultation with stakeholders. This is defined in each technical ES chapter as appropriate as the Zol varies from topic to topic and between construction and operational phases in some cases. A summary of the Zols applied to the topics in this EIA is provided in Table 3.2.

Table 3.2: Zol of Potential Effects During the (i) Construction and (ii) Operation of the Development

Topic	Zol during Construction	Zol during Operation
Socio-economics	The Site; Local Level (Redbourn ward; Watling; and Woodhall Farm); District Level (St Albans District and Dacorum District); and Regional Level (East England).	

Topic	ZoI during Construction	ZoI during Operation
Human Health	Spatial extent of any relevant environmental effects, e.g. noise and vibration, transport, air quality, socio-economic.	
Transport and Access	The extent of the transport model as agreed with HCC Highways.	
Noise and Vibration	The nearest representative noise / vibration sensitive receptors located up to 300m from the Site boundary.	Receptors near roads on which there is an identified significant change in traffic which leads to significant noise effects.
Air Quality	Within 250m of a boundary of the construction site, and within 50m of the roads affected by the track out of dust and dirt onto the highway by construction vehicles.	The road network where Development generated traffic will travel during the operational phase, screened against relevant criteria.
Water Resources, Flood Risk and Drainage	The Site and relevant local waterbodies and water resource features, upstream and downstream of the Site including the underlying groundwater and the catchment area for surface water, foul water drainage and potable water supply.	
Biodiversity	Designated sites within 15km for sites of international importance (SACs, SPAs, Ramsar sites); 2km for sites of national or regional importance (National Nature Reserves, SSSIs); and 1km for sites of County importance (LWS and species records, e.g. protected, Local Biodiversity Action Plan (LBAP) or notable species).	
Cultural Heritage	Scheduled monuments, Registered Parks and Gardens, Registered Battlefields, and protected wrecks; Listed Buildings (all grades); and Below ground archaeology within 1km of the Site.	
Climate Change and Greenhouse Gases	GHGs: Emission sources associated with the Development over which the Applicant has some ability to control. Climate Resilience: The footprint of the Development, split into its constituent parts.	
Agricultural Land and Soil	The Site	<i>Scoped Out</i>
Landscape and Visual Impacts	The study area includes both the Site and its wider context as approximately 1.5km radius from its boundary for landscape character area and visual receptors where relevant.	

Baseline Conditions and Future Baseline

Existing Baseline

- 3.6.2 The baseline environmental conditions need to be established to enable an accurate assessment of the potential changes that may occur and to assess the resultant environmental effects of the Development. Understanding baseline conditions also assists in the identification of the most appropriate mitigation to be employed to minimise significant effects.

3.6.3 Baseline information was gathered to define the existing environmental characteristics and receptors for each environmental topic. The baseline conditions and existing environmental characteristics and conditions of the Site were informed by:

- Desk-based studies
- Site visits and surveys;
- Computer modelling;
- Review of local planning policies; and
- Consultation with the statutory consultees, through the EIA scoping exercise and other consultation.

3.6.4 The baseline assessment year for the EIA will be the Site and its surrounds in its current condition, as recorded in recent surveys, datasets and Site inspections, i.e. 2024/25 unless stated otherwise within the relevant technical chapter. Where environmental information is not available for 2025/25, data has been used which pre-dates 2024/25. However, this is clearly stated and the rationale for use and validity is provided.

3.6.5 Where uncertainties or limitations are identified in the baseline information these are set out in the assessment chapter under 'Assessment Methodology - Assumptions and Limitations'.

Future Baseline

3.6.6 The EIA Regulations require an ES to include a description of the future baseline, i.e. the baseline conditions without implementation of the Development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge. Future baseline conditions are therefore also considered under the 'Baseline Conditions' section as appropriate within each technical chapter.

Sensitive Receptors

3.6.7 As part of the EIA process, the environmental effects of a given development or scheme are typically assessed in relation to sensitive receptors, including human beings (e.g. future site users), built resources (e.g. buildings) and natural resources (e.g. controlled waters). The criteria used for identifying potentially sensitive receptors include:

- Proximity to the Site;
- Presence or absence of impact pathways;
- Extent and duration of potential exposure to environmental impacts; and,
- Vulnerability and ability to respond to change.

3.6.8 Further detail on sensitive receptors is provided in the baseline assessment section of the technical chapters of the ES (i.e. Chapters 7 to 17). The chapters consider both existing and future sensitive receptors, on-site and off-site. A summary of the receptors and their sensitivity is provided in each technical chapter.

3.7 Basis of Assessment and Rochdale Envelope

- 3.7.1 The planning application is submitted in outline with all matters reserved expect for access from the B487 Hemel Hempstead Road / Redbourn Road. Following relevant case law, it is standard practice for EIAs of outline planning applications to be based a series of development principles and parameters known as a 'Rochdale Envelope'. The purpose of the Rochdale Envelope is to balance the need for flexibility for a development which is not fully defined at the outline stage with the ability to assess the likely significant environmental effects of the project.
- 3.7.2 The EIA is based on clearly defined parameters within which the framework of the Proposed Development will take place within. These parameters include cautious, but realistic worst-case scenarios which form the Rochdale Envelope. The parameters have been defined to ensure that sufficient information is included in the outline planning application to enable the 'likely significant' effects on the environment to be assessed, and the mitigation measures to be described.
- 3.7.3 The following documents form the basis of the assessments included within the ES:
- A Development Specification, which provides written parameters and commitments in the form of Key Design Principles (Appendix 5.2);
 - Parameter Plans (Appendix 5.1) comprising:
 - Land Use and Green Infrastructure Parameter Plan; and
 - Access and Movement Parameter Plan.
- 3.7.4 A further drawing, 'Heights and Levels Strategy Plan' defines the proposed approach to maximum building heights to be applied across the Development (included in Chapter 5: Description of Development). This drawing should be read in conjunction with the aforementioned Parameter Plans and Development Specification and forms the basis of assessment in the ES, notably for the Landscape and Visual Impact Assessment (Chapter 17).
- 3.7.5 Due to the level of necessary flexibility which is inherent within the land uses and floorspace schedule, different worst-case assumptions are applied depending on the specific topic and receptors being assessed. The basis of the worst-case approach is clearly defined in each topic chapter under 'Assessment Methodology' for ease of reference.
- 3.7.6 Detailed junction plans are submitted as part of the outline application for the junctions onto the B427 comprising the Strategic Transport Corridor (STC) and the Western Junction to show how these junctions are expected to be delivered. These junction drawings are included in Appendix 5.3. Details will be agreed with the relevant highway authorities prior to commencement although the proposals are not expected to be materially different to those presented in Appendix 5.3. The Design and Access Statement includes an illustrative masterplan although this is not submitted for approval and provides an interpretation of how the Development could come forward based on the outline planning application.
- 3.7.7 In addition, the following documents are submitted with the application which establish a framework within which future Reserved Matters Applications and conditions would be prepared:

- Outline Construction Environmental Management Plan ('Outline CEMP') (Appendix 6.1);
- Landscape and Ecological Management Plan ('Outline LEMP') (Appendix 17.6);
- Flood Risk Assessment and Drainage Strategy (Appendix 12.2);
- Utilities Strategy; and
- Framework Travel Plan (Appendix 9.2).

3.8 Assessment of Effects

Construction

- 3.8.1 The ES considers the effects of the Development throughout the construction period. The Development is likely to be built out in phases although these are not defined at this stage due to the need for flexibility in the delivery of the scheme.
- 3.8.2 The indicative duration of the construction period is presented in Chapter 6: Construction. Subject to planning permission construction of the Development is expected to commence in 2028, with construction expected to be completed in 2041, although a different start date is unlikely to alter the ES findings related to the assessment of likely significant effects or mitigation. This would represent an indicative build out period of 13 years. The peak year of construction is assumed to be 2033. The year of first occupation is assumed as 2030.
- 3.8.3 Technical assessments recognise that construction activity will be temporary, localised and intermittent and will not occur in a single location for the duration of the delivery programme. Assessments recognise that construction works would be phased, with some likely overlap in construction phases. Infrastructure delivery triggers, such as delivery of are discussed in technical assessments where relevant to the identification of likely significant effects.
- 3.8.4 Each technical assessment in the ES assumes a notional 'likely-worst case' scenario with respect to the envisaged construction methods, location (proximity to sensitive receptors) and timing as outlined in Chapter 6: Construction. These assumptions may vary between the topic specific assessments, therefore each individual assessment accounts for a 'hypothetical' construction site that is representative of the 'worst-case' scenario for any given set of receptors, relevant to that particular technical assessment. Both permanent and temporary construction effects are identified. For example, the assessment of construction effects is based on an assumed 'peak year' of construction activity (assumed as 2033) as a reasonable worst case scenario, when volumes of construction vehicles and on-site activities are likely to be at their highest.
- 3.8.5 A description of the key activities during the construction phase which informed the technical assessments of the ES is provided in Chapter 6: Construction.
- 3.8.6 The ES is accompanied by an Outline CEMP (Appendix 6.1). It is assumed that detailed CEMP(s) will be secured via a suitable worded planning condition and would be required to follow the Outline CEMP as appropriate for the given phase/stage of the construction works. Detailed CEMP(s) would be prepared for specific phases in line with the Outline CEMP and submitted to SADC for approval once contractors are appointed. The Outline CEMP includes principles of good construction site management to mitigate potential impacts of the works, including dust and noise mitigation and traffic management controls.

- 3.8.7 In judging the significance of effects, topic assessments assume that CEMPs will be secured and that they are inherent to the Development as ‘tertiary’ mitigation. This approach is in line with IEMA good practice⁶ which refers to tertiary mitigation as that which *“will be required regardless of any EIA assessment, as it is imposed, for example, as a result of legislative requirements and/or standard sectoral practices. For example, considerate contractors’ practices that manage activities which have potential nuisance effects”*.

Completed Development

- 3.8.8 The assessment of potential effects of the completed and occupied Development incorporates analysis of the permanent effects that could arise as a result of the occupied Development.
- 3.8.9 The Development is assumed to be full complete in 2041; this is taken as the year of assessment. This year may be subject to change however this would not materially alter the ES findings related to the assessment of likely significant effects or mitigation. Certain assessments also assume that the first occupation of residential uses would be in 2030.
- 3.8.10 Reasonable worst case assumptions have been made in relation to the operational uses within the Development which align to the Applicant’s project objectives. These are set out in ES Chapter 5: Description of the Development and the ‘Assumptions and Limitations’ sections of each technical chapter ES (Chapters 7 – 14) where relevant.
- 3.8.11 The Applicant has identified a package of off-site highway improvements to support the Development. Further details are set out in Chapter 5: Description of the Development. The potential effects of these off-site measures have been taken into account in assessments where necessary.

Identifying and Determining the Significance of Environmental Effects

Identifying Impacts and Effects

- 3.8.12 The Development has the potential to create a range of ‘impacts’ and ‘effects’ with regard to the physical, biological and human environment. The definitions of impact and effect used in this assessment are as follows:
- Impact - a change that is caused by an action. For example, excavation works would lead to a removal of underlying soils and lithology (impact). Impacts can be classified as direct, indirect, secondary, cumulative and inter-related. They can be either positive (beneficial) or negative (adverse); and
 - Effect - is used to express the consequence of an impact. For example, removal of soils and lithology (impact) has the potential to disturb underlying buried heritage sensitive receptors (effect).
- 3.8.13 For consistency, the findings of the various studies undertaken as part of the EIA adopt the following terminology to express the nature of the effect:
- Adverse: Detrimental or negative effect to an environmental resource or receptor;
 - Negligible: No significant effect to an environmental resource or receptor; and
 - Beneficial: Advantageous or positive effect to an environmental resource or receptor.

3.8.14 Following their identification, significant beneficial or adverse effects have been classified on the basis of their nature and duration as follows:

- Temporary: Effects that persist for a limited period only (due, for example, to particular activities taking place for a short period of time);
- Permanent: Effects that result from an irreversible change to the baseline environment (e.g. land-take) or which will persist for the foreseeable future (e.g. noise from regular or continuous operations or activities);
- Direct: Effects that arise from the effect of activities that form an integral part of the scheme (e.g. direct employment and income generation);
- Indirect: Effects that arise from the effect of activities that do not explicitly form part of the scheme (e.g. off-site infrastructure upgrades to accommodate the Development);
- Secondary: Effects that arise as a consequence of an initial effect of the scheme (e.g. induced employment elsewhere);
- Cumulative: Effects that can arise from a combination of different effects at a specific location or the interaction of different effects over different periods of time.

3.8.15 In the context of the Development, short (up to 24 months duration) to medium (i.e. the length of the construction programme) term effects are generally determined to be those associated with construction activities, and the long term effects are those associated with the completed and occupied Development. Local effects are those effects affecting receptors within and in close proximity to the Site, whilst effects on receptors in the wider study area are considered to be at a district level. Sub-regional effects are those affecting adjacent boroughs / wards.

Defining Magnitude of Impact and Sensitivity of Receptor

Magnitude of Impact

3.8.16 For impacts assessed in this ES, a magnitude of impact was assigned, taking into account the spatial extent, duration, frequency and reversibility of the impact, where relevant. Scales of impact magnitude were defined in each chapter of this ES where this is possible, otherwise professional judgement was applied to the following scale:

- No change;
- Negligible;
- Low;
- Medium; and
- High.

Sensitivity of Receptor

3.8.17 Sensitive receptors are defined as the physical or biological resources or user groups that would be affected by the potential impacts of development. The identification of sensitive receptors was informed by baseline studies carried out as part of the EIA. The sensitivity of a receptor was based on the relative importance of the receptor, taking into account:

- Legislative / designated status;

- The number of individual receptors;
- The characteristics / rarity; and
- Ability to absorb change.

3.8.18 A summary of sensitive receptors is provided within each baseline assessment sections of the ES topic chapters. Sensitivity was defined within each topic according to the following scale:

- Negligible;
- Low;
- Medium; and
- High.

Evaluation of Significance

3.8.19 The assessment of environmental effects has been undertaken in accordance with definitive standards and legislation where such material is available. In cases where it is not possible to quantify effects, qualitative assessments have been carried out and are based on the available knowledge of the Site and potential effect, alongside professional judgement. Where uncertainty exists, this is detailed in the 'Assumptions and Limitations' under 'Assessment Methodology' in the respective technical chapters.

3.8.20 Each technical chapter provides the specific criteria, including sources and justifications, for quantifying the level of effect significance. Where possible, this has been based upon quantitative and accepted criteria, together with the use of value judgements and expert interpretations to establish to what extent an effect is significant.

3.8.21 There is no statutory definition of what constitutes a significant effect and guidance is of a generic nature. However, it is widely recognised by EIA practitioners that 'significance' reflects the relationship between the magnitude of an impact and the sensitivity (or value) of the affected resource or receptor. Statutory designations and any potential breaches of environmental law take precedence in determining significance because the protection afforded to a particular receptor or resource is already established as a matter of law, rather than requiring a project or site-specific evaluation.

3.8.22 Specific criteria for the assessment of each potential effect gives due regard to the following:

- Extent and magnitude of the effect;
- Effect duration (whether short, medium or long term);
- Nature of effect (whether direct or indirect, reversible or irreversible);
- Performance against environmental quality standards;
- Whether the effect occurs in isolation, is cumulative or interactive;
- Sensitivity of the receptor; and
- Compatibility with environmental policies.

3.8.23 Where adverse or beneficial effects were identified, these were generally assessed against the scale set out in Table 3.3.

Table 3.3: Description of the level of significance of environmental effects

Level of Significance	Description
Major	Large effects (by extent, duration or magnitude) and / or a highly pronounced change in environmental conditions. Effects, both adverse and beneficial, which are likely to be important considerations at a regional level because they contribute to achieving regional or council wide objectives, or, could result in exceedance of statutory objectives and / or breaches of legislation.
Moderate	Intermediate effects (by extent, duration or magnitude) and / or pronounced change in environmental conditions. Effect that is likely to be an important consideration at a local level.
Minor	Noticeable but small effect or change in environmental conditions. These effects may be raised as local issues but are unlikely to be of importance in the decision-making process.
Negligible	No discernible change or neutral effect on environmental conditions. An effect that is likely to have a negligible influence, irrespective of other effects.

3.8.24 The matrix presented in Table 3.4 was generally applied throughout this ES to determine the scale or magnitude of effects. Where different assessment criteria were used, this is clearly stated within the relevant chapter.

Table 3.4: Significance of Effects Matrix

Sensitivity / Value of Receptor	Magnitude of Effect			
	High	Medium	Low	Negligible
High	Major	Major / Moderate	Moderate	Negligible
Medium	Major / Moderate	Moderate	Moderate / Minor	Negligible
Low	Moderate	Moderate / Minor	Minor	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

Mitigation, Monitoring and Residual Effects

3.8.25 The development of mitigation measures is an integral part of EIA. Mitigation measures are set out in each of the technical assessment chapters where significant effects are identified, with the aim of avoiding, reducing, or offsetting for potential adverse effects and maximising potential beneficial effects. In each technical chapter, the specialists undertaking the EIA identified appropriate mitigation measures based on their assessment of potential significant impacts.

3.8.26 As set out in IEMA's good practice guidance 'Implementing the Mitigation Hierarchy from Concept to Construction', mitigation can be categorised as follows:

- **Primary Mitigation (Inherent):** Modifications to the location or design of the Development made during the pre-application stage that are an inherent part of the project, and do not require additional action to be taken. These are an integral part of the Development seeking consent and will be outlined in the Description of the Development chapter of the ES and summarised in the topic chapter where relevant;
- **Secondary Mitigation (Foreseeable):** Actions that will require further activity to achieve the anticipated outcome which may be imposed as part of the planning consent, or through inclusion in the ES, e.g. implementation of a Framework Travel Plan or defining lighting limits; and
- **Tertiary Mitigation (Inexorable):** Actions that would occur with or without input regardless of the EIA process. These include actions that will be undertaken to meet other existing legislative requirements or standard practices used to manage commonly occurring environmental effects (i.e. construction related nuisances).

- 3.8.27 The environmental effects of the Development will be assessed taking account of primary and tertiary mitigation measures, collectively referred to as 'Embedded Mitigation' measures.
- 3.8.28 Where secondary mitigation is proposed to mitigate significant adverse effects (referred to as 'Additional Mitigation'), the assessment will clearly state the residual effects following the implementation of those mitigation measures. Where a need for monitoring of adverse effects has been identified, this is also set out in this section together with appropriate monitoring arrangements.
- 3.8.29 The ES will clearly set out secondary and tertiary mitigation measures and how these will be secured and delivered, for example through planning conditions, Section 106 agreements and / or Community Infrastructure Levy agreements. Residual effects are those that remain following the consideration of mitigation within the assessment. When applying the matrix set out in Table 3.4, these are defined as either 'significant' (i.e. major or moderate residual effect) or 'not significant' (i.e. minor residual effect or negligible). 'Not significant' effects would not be considered material to the planning decision and 'significant' effects could be considered material to the planning decision process.
- 3.8.30 The summary tables in each technical chapter set out the potential residual effects for each topic assessment.

3.9 Cumulative Effects

- 3.9.1 The EIA Regulations require that, in assessing the effects of a particular development proposal, consideration should also be given to any cumulative effects. Potential cumulative effects are categorised into two types:
- **Intra-project effects:** The combined effects of individual effects resultant from the Development upon a set of defined sensitive receptors, for example, noise, dust and visual effects; and
 - **Inter-project effects:** The combined effects arising from another development site(s), which individually might be insignificant, but when considered together, could create a significant cumulative effect.

- 3.9.2 Details on the methodology and approach of the cumulative effects assessment for intra-project effects and inter-project effects of the Development are provided below.

Intra-Project Effects Assessment Methodology

- 3.9.3 Intra-project effects from multiple topics are assessed within Chapter 18: Effect Interactions. The effect interactions assessment focussed on receptor groups that have the potential to be affected by multiple effects from more than one specialist topic in the EIA, as a result of the Development.
- 3.9.4 There is no consistent guidance or standardised approach to the assessment of effect interactions, however it is recognised that the Development has the potential to give rise to a variety of impacts upon a number of different receptors, some of which may combine to become significant effects. As a result, a receptor group-based approach was adopted. The methodology used for the assessment of effect interactions as well as the results of the assessment are set out in Chapter 18: Effect Interactions.

Cumulative Effects (Inter-Project Effects) Methodology

- 3.9.5 The cumulative assessment is important to ensure that the combined effects of other schemes with the Development are understood appropriately for decision making. The EIA Regulations Require the ES to include a description of the “...*the cumulation of effects with other existing and / or approved projects...*”.
- 3.9.6 The approach to the search area for cumulative schemes was set out in the Scoping Report and has been informed by discussion with the EIA technical specialists to identify the appropriate ZOI for each topic area. A search radius of 5km has been applied to align with the study area for the viewpoints in the Landscape and Visual Impact Assessment, although one site beyond this has been included due to its scale.
- 3.9.7 In line with the Planning Inspectorate Advice Note 17 on Cumulative Effects Assessment (September 2024)¹⁰, ‘other existing and, or approved development’ is taken to include existing developments and existing plans and projects that are ‘reasonably foreseeable’. Advice Note 17 also establishes that ‘other developments’ and more specifically ‘major developments’ need to be identified to assess the probable significant effects against the baseline position. Built and operational developments are included in this baseline. Design Manuals for Roads and Bridges (DMRB)¹² Guidance on cumulative effects will also be taken into consideration, which states that “*cumulative schemes to be considered should be based on the zone of influence of the project together with other projects...which have the potential to result in cumulative impacts.*”
- 3.9.8 In consideration of these guidance documents, the ‘major developments’ that should be considered within the cumulative assessment have been defined as those that are:
- Commercial developments (e.g. employment, industrial) - site of 1 hectare or more, or building 1,000 square meters or more of floor space;
 - Residential developments - of 150+ dwellings;
 - Minerals - Working minerals on a site of 2 hectares or more;
 - Waste - Managing waste on a site of 0.5 hectares or more;

- Transport infrastructure developments (rail, trunk roads or motorways only); and
- Energy infrastructure developments.

3.9.9 Cumulative schemes are considered which are:

- Under construction;
- Permitted application(s), but not yet implemented;
- Submitted applications(s) not yet determined;
- Projects on the Planning Inspectorate's Programme of Projects;
- Identified in the relevant Development Plan (DBC or SADC); and
- Identified in other plans and programmes (as appropriate) which set the framework for future development consents/approvals, where such development is reasonably likely to come forward.

3.9.10 A search of relevant planning registers was undertaken considering the above criteria and a list of cumulative schemes was included in the Scoping Report. This included planned development considered likely to come forward as part of the Draft DBC and SADC Local Plan site allocations including The Crown Estate's adjacent emerging proposals for East Hemel Hempstead. The list of cumulative schemes was agreed by SADC in their Scoping Opinion although they also made additional comments which have been addressed in the ES as follows:

- *'It is advised that table 4.1 includes the H2, H3 and H3 East Hemel sites as these are referred to within the document but not included within the table'* – These are included in the table in Appendix 3.3.
- *The recent DCO for Luton Airport must also be assessed with regards to potential cumulative effects with regards to transport/traffic'* – This Development Consent Order (DCO) has been considered in Chapter 9: Transport and Access and other relevant assessments.
- *This list must be reviewed regularly to ensure it remains up to date'* – the list and table in Appendix 3.3 was reviewed in November 2025 to ensure it remains up to date.
- *The comments of Natural England on cumulative effects should be noted taken into account – the following types of projects should be included in such an (cumulative) assessment (subject to available information:*
 - a) existing completed projects;
 - b) approved but uncompleted projects;
 - c) ongoing activities;
 - d) plans or projects for which an application has been made and which are under consideration by the consenting authorities; and
 - e) plans and projects which are reasonably foreseeable.

Existing completed projects are considered within the baseline whilst the remaining types of projects have been accounted for in the list of cumulative schemes (Appendix 3.4).

- The criteria for relevant cumulative schemes set out in paragraph 4.49 of the Scoping report is considered to be appropriate and acceptable.

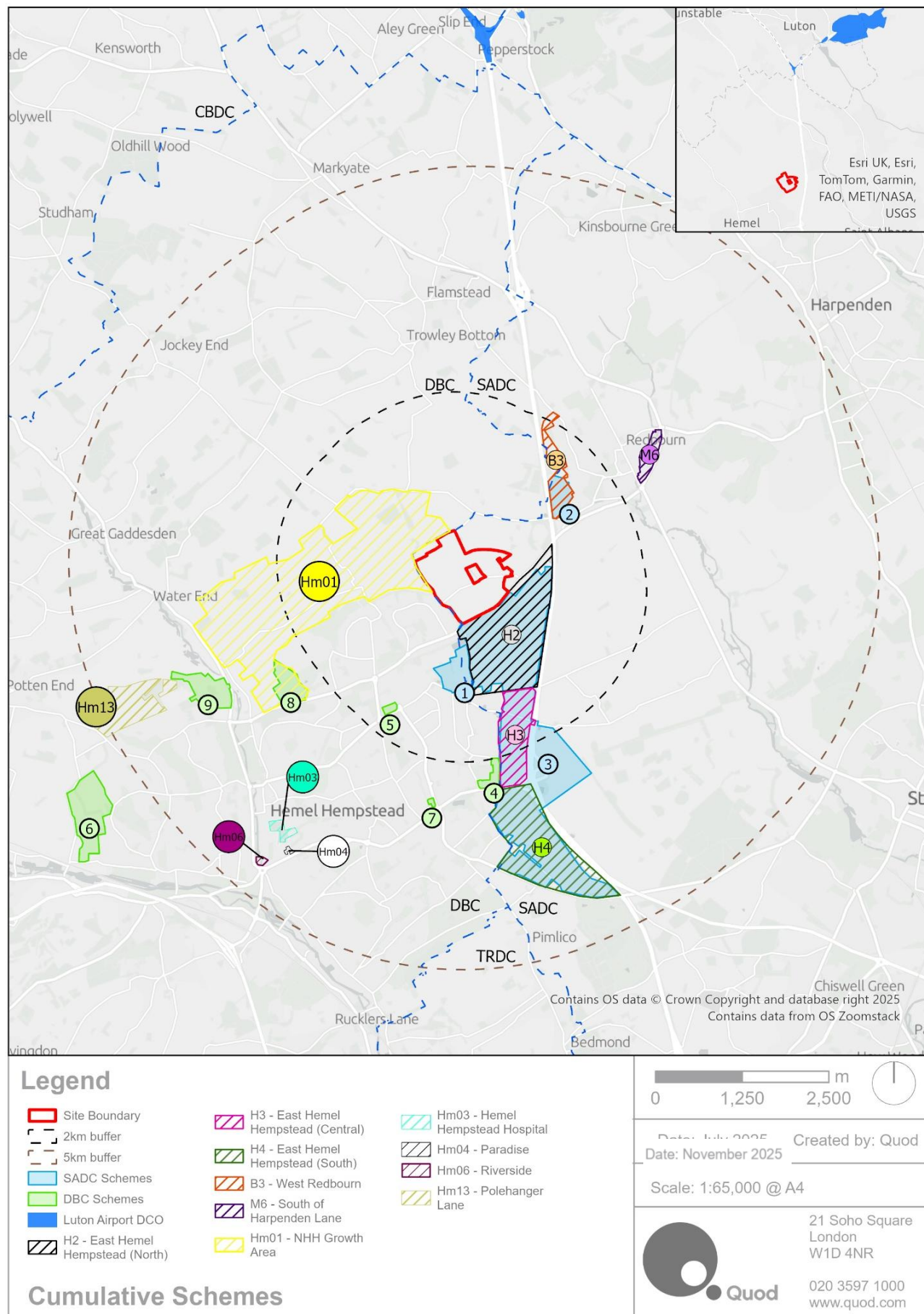
3.9.11 The schemes identified for consideration in the cumulative effects assessment and agreed with SADC are listed below and are shown on Figure 3.1. Further details of each scheme are provided in Appendix 3.4.

- Ref. ID 1: Land between Three Cherry Trees Lane and Cherry Tree Lane, Hemel Hempstead (Ref. SADC 5/2016/2845);
- Ref. ID 2: Land at Gaddesden Lane, Redbourn, (SADC Ref. 5/2021/3631);
- Ref. ID 3: Land to East of Hemel Hempstead, Hemel Hempstead Road, Redbourn (SADC Ref. 5/2024//2171) (H2 Allocation);
- Ref. ID 4: Land Between Redbourn Bypass Dunstable Road And Harpenden Lane Redbourn Hertfordshire (SADC Ref. 5/2025/1946);
- Ref. ID 5: Land off Green Lane, Hemel Hempstead, (DBC Ref. 21/03793/MOA);
- Ref. ID 6: Land at Eastman Way, Atlas Copco, Hemel Hempstead Industrial Estate, Swallowdale Lane, Hemel Hempstead (DBC Ref. 22/03812/MFA);
- Ref. ID 7: LA3, Land at West Hemel Hempstead (DBC Ref. 4/03266/18/MF);
- Ref. ID 8: Plots 1 & 2 Maylands Avenue, Hemel Hempstead (DBC Ref. 21/04556/MFA);
- Ref. ID 9: Land at Marchmont Farm, Piccotts End Lane, Hemel Hempstead (DBC Ref. 19/02749/MOA);
- Ref. ID 10: Land West of Leighton Buzzard Road and North of Galley Hill Leighton Buzzard Road, Hemel Hempstead (DBC Ref. 21/04508/MOA);
- Ref. ID 11: Land North Of Polehanger Lane Berkhamsted Road Hemel Hempstead Hertfordshire (DBC Ref. 25/01742/MOA);
- Ref. ID 12: London Luton Airport Expansion (Development Consent Order);
- SADC Site Allocations: B3 – West Redbourn, and M6 – South of Harpenden Lane; and
- DBC Site Allocations: Hm01 - North Hemel Hempstead Growth Area; Hm03 - Hemel Hempstead Hospital; Hm04 – Paradise; Hm06 – Riverside; and Hm13 – Polehanger Lane.

3.9.12 The Applicant has worked closely with The Crown Estate (Scheme ID No. 3) to ensure the proposals (including details junction proposals for the STC junction and B487 western access junction) and respective EIA processes are aligned as far as practicable. Both the Development and the East Hemel Hempstead project are dependent on delivery of both junctions for access. The respective red line planning application boundaries therefore overlap along the B487 so that it includes the area needed to deliver the shared junction for the STC Junction and the B487 western access junction. The junctions are therefore assessed as an integral part of each scheme in the respective EIA's. However, for the purposes of the cumulative effects assessment, it is assumed that the B487 STC Junction would be delivered as part of the Development. This is to avoid double-counting in the assessment of cumulative effects between the Development and Scheme ID No. 3.

- 3.9.13 The cumulative assessment methodologies and the cumulative effects are reported in sub-sections of each technical chapter, along with mitigation measures where necessary.

Figure 3.1: Map of Cumulative Schemes



References

- ¹ HMSO, (2017). The Town and Country Planning (Environmental Impact Assessment) Regulations 2017. The Stationary Office.
- ² HMSO, (2018). The Town and Country Planning and Infrastructure Planning (Environmental Impact Assessment) (Amendment) Regulations 2018. The Stationary Office. October 2018.
- ³ HMSO, 2020. The Town and Country Planning (Local Planning, Development Management Procedure, Listed Buildings etc.) (England) (Coronavirus) (Amendment) Regulations 2020. The Stationary Office. December 2020.
- ⁴ IEMA, (2004). Guidelines for Environmental Impact Assessment. IEMA.
- ⁵ IEMA, (2011). Special Report: The State of Environmental Impact Assessment Practice in the UK. IEMA.
- ⁶ IEMA, 2024. Environmental Impact Assessment Guidelines: Implementing the Mitigation Hierarchy from Concept to Construction, August 2024.
- ⁷ IEMA, (2017). Delivering Proportionate EIA: A Collaborative Strategy for Enhancing UK Environmental Impact Practice. July 2017.
- ⁸ IEMA, (2016). EIA – Shaping and Delivering Quality Development. July 2016.
- ⁹ IEMA, (2023), Effective Non-Technical Summaries for Environmental Impact Assessment. Available at: https://s3.eu-west-2.amazonaws.com/iema.net/documents/J46585_IEMA_AdviceNoteGuide_V6.pdf
- ¹⁰ Planning Inspectorate, (2024). Advice Note 17: Cumulative Effects Assessment Relevant to Nationally Significant Infrastructure Projects. September 2024.
- ¹¹ Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government, (2020). National Planning Practice Guidance: Environmental Impact Assessment. Available online at: <http://planningguidance.planningportal.gov.uk/blog/guidance/environmental-impact-assessment/>
- ¹² Design Manual for Roads and Bridges (DMRB), (2020). LA 104 Environmental Assessment and Monitoring. Revision 1. August 2020.