

**Project Excellence, Land at Wiggs Farm, Station Road,  
Coalville**

Barberry Bardon Limited

# **Environmental Statement**

**Volume 1**



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## Document Control

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## 1. Introduction

### 1.1 Background

- 1.1.1 An Environmental Impact Assessment (EIA) has been undertaken on behalf of Barberry Bardon Limited (the “Applicant”) in relation to land at Wiggs Farm, Station Road, Coalville, Leicestershire (the “Site”) in relation to the proposed construction of a new distribution hub with ancillary offices, quality control office and canopy, maintenance units, and gatehouse, and associated infrastructure and landscaping to house the growing Pall-Ex (U.K.) Ltd business operations (called the “Proposed Development”).
- 1.1.2 The Environmental Statement (ES), prepared by Envance, presents the findings of the EIA. The ES is split into three volumes: Volume 1 (this document), Volume 2 (Figures), Volume 3 (Appendices). A glossary of Terms is provided in Appendix 1.1 (Volume 3).
- 1.1.3 This ES accompanies a full planning application submitted to Hinckley and Bosworth Borough Council for the construction of a new distribution hub (use Class B8 Storage and Distribution) with associated access off Station Road, infrastructure and landscaping. This ES presents the likely significant effects of the Proposed Development at the construction and operation stages.
- 1.1.4 Pall-Ex are an established freight distribution business, operating from an existing hub facility on Wood Road, in close proximity to the Site. This existing Pall-Ex facility has become too constrained for their current operational needs, hence the reason for the proposed progression of a new purpose built hub facility that can accommodate the companies planned expansion, whilst retaining its presence in the local area.
- 1.1.5 The Proposed Development Site is 14.64 hectares (ha) and is situated within the administrative area of Hinckley and Bosworth Borough Council in Leicestershire, approximately 15 km to the west of Leicester and c. 5 km south of the nearest town of Coalville.
- 1.1.6 The Site makes up part of a mixed-use land allocation in the adopted Hinckley and Bosworth Borough Council Local Plan (2006-2026)<sup>1</sup>. The Site currently comprises a former arable field belonging to Wiggs Farm and an area of plantation deciduous woodland along the northern and eastern boundary of the Site. The arable field is bounded by native hedgerows. The Site location is shown in Figure 1.1 (Volume 2 of the ES).
- 1.1.7 The Site is set within a rural area with agricultural land uses surrounding the Site. Wood Road is located on the northern and western boundary and Station Road is located on the eastern edge of the Site. Adjacent to the Site, beyond Wood Road in the northeast is the existing Pall-Ex distribution premises, comprising of a large warehouse unit. Immediately southwest of the Site is a small industrial estate, comprising a recycling area and commercial space selling livestock feed, belonging to Wiggs Farm.
- 1.1.8 The Site is located close to existing residential and commercial areas of Ibstock, Ellistown, Battram, Bagworth and Bardon Hill. The context of the Site in the surrounding area is shown in Figure 1.2 (Volume 2).

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<sup>1</sup> Hinckley & Bosworth Borough Council, 2021, Hinckley & Bosworth Local Plan 2006-2026.



## 1.2 EIA Regulations and Procedures

- 1.2.1 An ES is a document that presents the findings of an EIA in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017<sup>2</sup> (as amended) (hereafter called the 'EIA Regulations'). Running concurrently with the design process, the EIA has sought to identify the likely significance of environmental effects (beneficial or adverse) arising from the Proposed Development prior to submission of the planning application. The EIA compares the existing environmental conditions prior to development (baseline environment) against the environmental condition during and following construction and operational phases of the Proposed Development.
- 1.2.2 Under the EIA Regulations, the Local Planning Authority (LPA) cannot grant planning permission for an application requiring EIA development without considering the environment information.

## 1.3 Screening

- 1.3.1 Regulation 6 of the EIA Regulations makes provision for an applicant to request a Screening Opinion from the relevant LPA in order to determine if an EIA is necessary in conjunction with the planning application. If a Proposed Development falls within the categories set out within Schedule 2 of the EIA regulations, that development is considered an 'EIA development' due to the likely nature of the development to cause a significant effect on the environment by virtue of its nature, size or location (Regulation 2). Under Schedule 2 paragraph 10(a) of the EIA regulations, this Proposed Development is considered to be under the category of 'industrial estate development projects', exceeding the development threshold of an overall development area of 0.5 ha.
- 1.3.2 A Screening Opinion was submitted to Hinkley and Bosworth Borough Council on 21/02/2025 and a response was provided on 28/03/2025 (see Appendix 1.3 and Appendix 1.4 respectively; Volume 3). The screening response confirmed the potential for the Proposed Development to result in significant environmental effects and, therefore, an ES will be required under Schedule 2 10(a) of the EIA Regulations.

## 1.4 Scoping

- 1.4.1 EIA regulations allow the Applicant to request a written opinion from the LPA as to the information the ES should present. A Scoping Report was submitted to Hinkley and Bosworth Borough Council on 21/02/2025 (combined with the screening request as set out above) to assist in determining the scope of the EIA (Appendix 1.3; Volume 3). The scoping exercise carried out was informed by the baseline information that had been collected at the time of submission together with the known characteristics of the Proposed Development. Further information relating to the EIA Scoping Request and Opinion provided by Hinkley and Bosworth Borough Council is provided in Chapter 2 of this ES with copied in Appendix 1.3 and 1.4 respectively (Volume 3).

## 1.5 Structure of the Environmental Statement

- 1.5.1 This ES has assessed the effects of the Proposed Development on the aspects of the

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<sup>2</sup> Town and Country Planning (Environmental Impact Assessment) Regulations, 2017.



environment it has potential to significantly affect (the ‘technical topics’). The ES is structured as follows:

- Environmental Statement Volume 1: Main Text - Comprises the main volume of the ES, including chapters, known throughout this report as ‘Chapter’, that describe the EIA context, the Site, the Proposed Development, and the scope of the ES. This is followed by the technical topics for each environmental discipline relevant to the proposals. The volume concludes with a summary. The Chapters within this ES include:
  - Chapter 1 Introduction;
  - Chapter 2 Assessment Scope and Methodology;
  - Chapter 3 Site Context;
  - Chapter 4 Proposed Development;
  - Chapter 5 Consideration of Alternatives;
  - Chapter 6 Planning Policy Context;
  - Chapter 7 Traffic and Transport;
  - Chapter 8 Air Quality;
  - Chapter 9 Noise and Vibration;
  - Chapter 10 Landscape and Visual;
  - Chapter 11 Biodiversity;
  - Chapter 12 Water Environment;
  - Chapter 13 Ground Conditions;
  - Chapter 14 Historic Environment;
  - Chapter 15 Socio Economics;
  - Chapter 16 Cumulative Effects; and
  - Chapter 17 Conclusion
- Environmental Statement Volume 2: Figures – All figures referred to in each environmental technical topics in Volume 1 of the main text;
- Environmental Statement Volume 3: Technical Appendices - Comprises the associated technical appendices which support each environmental topic within Volume 1; and
- Environmental Statement: Non-Technical Summary (NTS) – this provides a concise summary of the ES identifying the likely significant environmental effects and the measures proposed to mitigate, or to avoid the adverse effects of the Proposed Development.

1.5.2 The other principal documents submitted with the planning applications comprise:

- Planning application forms;
- Planning Statement;



- Statement of Community Involvement;
- Tree Survey and Arboricultural Impact Assessment (AIA); and
- Agricultural Soils Assessment.

## 1.6 The EIA Consultant Team

- 1.6.1 The ES has been co-ordinated and managed by Envance. The planning application has been developed drawing in consultation with stakeholders and those that have contributed to the ES are referenced in the Competency Statement (Appendix 1.2; Volume 3). The Competency Statement details the EIA Teams experience and expertise to assure the quality of the ES in accordance with EIA regulations. Table 1.1 outlines the EIA Team's involved in the preparation of this ES.

**Table 1.1: EIA team**

Area of Expertise	Consultant
Applicant	Barberry Bardon Limited
Project manager/quantity surveyor	AECOM
Planning consultant	Harris Lamb Property Consultancy (HLPC)
Design	BHB Architects
EIA co-ordination & ES production	Envance
Traffic and transport	DTA
Air quality	Air and Acoustics Ltd
Noise and vibration	Hepworth Acoustics
Landscape and visual	BLADE
Biodiversity	Envance and HLPC
Historic environment	Cura Terrae and Orion
Water environment/drainage	TierUK
Ground conditions	TierUK
Socioeconomics	Envance

## 1.7 Environmental Statement Availability and Comments

- 1.7.1 Once the Application has been registered, the ES and planning application documents will be available through the Hinkley and Bosworth Borough Council planning portal. Contact details are available on the Hinkley and Bosworth Borough Council website for further information. All documents should be publicly available for inspection at the Hinkley and Bosworth Borough Council office:

Hinkley and Bosworth Borough Council

Hinkley Hub

Rugby Road

Hinkley



Leicestershire

LE10 0FR

Telephone: 01455 238141

Hinkley and Bosworth Borough Council Planning Portal: [https://www.hinckley-bosworth.gov.uk/info/200249/view\\_planning\\_applications\\_and\\_decisions/719/view\\_and\\_comment\\_on\\_a\\_planning\\_application](https://www.hinckley-bosworth.gov.uk/info/200249/view_planning_applications_and_decisions/719/view_and_comment_on_a_planning_application)

1.7.2 Alternatively, the ES may be purchased from Envance, the costs for which are set out below:

- Volume 1: Main Text £100
- Volume 2: Figures £100
- Volume 3: Appendix - £150
- Non-Technical Summary (NTS) - Free of charge
- Digital copies of the above documents on a CD - £10.

1.7.3 For copies of any of the above, please contact Envance at:

Unit 9 Acorn Business Park

Heaton Lane

Stockport

United Kingdom

SK4 1AS

1.7.4 Comments on the planning applications should be directed to the Hinkley and Bosworth Borough Council Planning Department, and not to Envance, the Applicant or technical team that have contributed to the planning application.



## 2. Assessment Scope and Methodology

### 2.1 Introduction

- 2.1.1 This Chapter describes the overarching process by which the EIA was carried out. It includes a summary of the relevant regulations, the EIA process, consultations, and the assessment method used to determine the likely significant effects of the Proposed Development. Each Chapter of this ES will stipulate their own specific assessment criteria.

### 2.2 EIA Regulations

- 2.2.1 Procedures relating to the assessment of the environmental effects of the Proposed Development are described in The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) ('the EIA Regulations'). Section 18 of the EIA Regulations state the requirements for the ES. These include:

- 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 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".*

- 2.2.2 Furthermore, Section 18 of the EIA Regulations states an ES must:

- a. *"where a scoping opinion has been adopted, be based on the most recent scoping opinion adopted (so far as the Proposed Development remains materially the same as the Proposed Development which was subject to that opinion);*
- b. *include the information reasonably required for reaching a reasoned conclusion on the significant effects of the development on the environment, taking into account current knowledge and methods of assessment; and*
- c. *be prepared, taking into account the results of any relevant UK environmental assessment, which is reasonably available to the applicant with a view to avoiding duplication of assessment".*

- 2.2.3 Section 18, Part 5 states that in order to ensure the completeness and quality of the ES:



- a. *“the developer must ensure that the environmental statement is prepared by competent experts; and*
- b. *the environmental statement must be accompanied by a statement from the applicant outlining the relevant expertise or qualifications of such experts”.*

2.2.4 The EIA Regulations set out what information the ES must present. In summary this includes:

- *“a description of the Proposed Development;*
- *present the data used to identify effects the Proposed Development may cause on the baseline environment;*
- *a description of the likely significant effects of the Proposed Development during construction and operational phases of the Proposed Development covering direct effects and any indirect, secondary, cumulative, short, medium and long term, permanent and temporary, positive and negative effects;*
- *outline the mitigation measures proposed in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects;*
- *the reasonable alternative options to development, including design alternatives;*
- *Non-Technical Summary; and*
- *provide a Competency Statement for the consultees used in the ES”.*

## 2.3 Key Principles of the Development

2.3.1 The purpose of the EIA process is to identify the likely significant effects of the Proposed Development the environment. This is done by identifying the baseline conditions, predicting the potential impacts of the Proposed Development and how these impacts may change the baseline conditions and then applying mitigation to avoid, prevent or reduce any potential adverse impacts. An assessment of the resulting effects is carried out defined by the magnitude of the impact (degree of change) and the importance, sensitivity or value of the impacted receptor or resource.

2.3.2 The following components have been set out in each ES Chapter:

- summary of relevant planning policy and legislation;
- summary of consultation, including scoping opinion and statutory and non-statutory consultation;
- description of the approach to assessment;
- identification of the study area;
- description of the baseline environmental conditions and identification of sensitive receptors; and
- presentation of the impact assessment undertaken (including scope of impact, mitigation measures introduced, likely residual and cumulative significant effects, and monitoring if proposed).

2.3.3 Other areas of consideration included within the relevant ES Chapters include expert opinion outside of the consultees described in the competency statement, modelling, use of relevant technical and good practice guidance, and specific consultation with appropriate bodies.



## 2.4 Scope of the Environmental Impact Assessment

### Technical Scope

- 2.4.1 In determining the technical scope of this EIA, a Scoping Opinion was submitted to Hinkley and Bosworth Borough Council on 21/02/2025. The Scoping Opinion provided a description of the Site context, the nature and purpose of the Proposed Development, and identified the proposed scope and structure of the EIA for the Council's consideration based on the available information about the Proposed Development at the time of submission. Key components of the Proposed Development at the time of submitting the request included:
- a new warehouse and ancillary buildings;
  - woodland planting, green infrastructure and landscaping;
  - a new site access through Clay Quarry Wood from Station Road;
  - re-grading of Site; and
  - supporting infrastructure and utilities.
- 2.4.2 The baseline information that had been collected at that time was presented to Council, the characteristics of the Proposed Development, the likelihood of significant environmental effects and professional judgement based on experience of comparable developments informed the Scoping Opinion.
- 2.4.3 A response on the Scoping Opinion was received from Hinkley and Bosworth Borough Council on 28/03/2025 (Appendix 1.4; Volume 3). The Scoping Opinion received from Hinkley and Bosworth Borough Council and the scoping exercise identified the scope for the EIA and resultant ES, as described below in Table 2.1.

**Table 2.1: Environment themes scoped in/out**

EIA topic	Scoped in/out the EIA Scoping Opinion	How/where addressed/reason for scoping out
Traffic and Transport	Scoped in	To be assessed within the Traffic and Transport Chapter.
Air Quality	Scoped in	To be assessed within the Air Quality Chapter.
Noise and Vibration	Scoped in	To be assessed within the Noise and Vibration Chapter.
Landscape and Visual	Scoped in	To be assessed within the Landscape and Visual Chapter.
Biodiversity	Scoped in	To be assessed within the Biodiversity Chapter.
Cultural Heritage and Archaeology (Historic Environment)	Scoped in	To be assessed within the Historic Environment Chapter.
Hydrology, flood Risk and Drainage (Water Environment)	Scoped in	To be assessed within the Water Environment Chapter.





EIA topic	Scoped in/out the EIA Scoping Opinion	How/where addressed/reason for scoping out
Ground Conditions	Scoped in	To be assessed in the Ground Conditions Chapter.
Soil	Scoped out	As set out in the 21/02/2025 EIA Scoping Report and the Council's EIA Scoping Opinion 28/03/2025.
Socioeconomics	Scoped in	To be assessed within the Socio-economic Chapter and to a lesser degree in the Biodiversity Chapter where impacts could affect human beings.
Climate (inc. Greenhouse Gas Emissions)	Scoped in (partially)	To be assessed in the Air Quality Chapter and Water Environment Chapter.
Human Health	Scoped in (partially)	To be assessed within the Socio-economic Chapter and to a lesser degree in the Biodiversity Chapter where impacts could affect human beings.
Material Assets	Scoped in (partially)	The impact upon both built and natural assets is to be assessed within all Chapters of the ES.
Major Accidents and Disasters	Scoped out	As set out in the 21/02/2025 EIA Scoping Report and the Council's EIA Scoping Opinion 28/03/2025.
Energy and Sustainability	Scoped out	As set out in the 21/02/2025 EIA Scoping Report and the Council's EIA Scoping Opinion 28/03/2025.
Utilities	Scoped out	As set out in the 21/02/2025 EIA Scoping Report and the Council's EIA Scoping Opinion 28/03/2025.
Heat and Radiation	Scoped out	As set out in the 21/02/2025 EIA Scoping Report and the Council's EIA Scoping Opinion 28/03/2025.
Land (e.g. land take)	Scoped out	As set out in the 21/02/2025 EIA Scoping Report and the Council's EIA Scoping Opinion 28/03/2025.
Interrelationship between above factors	Scoped in	To be assessed within the Cumulative Effects Chapter.

- 2.4.4 A formal Screening Request was not submitted separately, but as part of a combined Scoping Opinion request, as it was determined the size of the Proposed Development constitutes EIA development in the context of the EIA Regulations.
- 2.4.5 Baseline information as it became available through site surveys, the evolution of the project description or inclusion of commitments which were incorporated to implement mitigation throughout the pre-application period have also influenced the technical scope of the ES.

### Spatial Scope

- 2.4.6 In general terms, the spatial or geographical scope of each technical assessment takes into account the following factors:
- the physical extent of the proposed works;
  - the nature of the baseline environment and the way the impacts are likely to be



propagated (e.g. through defining source-pathway-receptor approaches); and

- the pattern of governmental administrative boundaries, which provide the planning and policy context for the project.

2.4.7 Appropriate study areas for each technical topic have been defined by the specialists undertaking the assessment. The topic specific study areas have been discussed and agreed with the relevant stakeholders and each technical topic includes a commentary on how the study area has been defined.

### Temporal Scope

2.4.8 The temporal scope of the assessment generally refers to the time periods over which impacts may be experienced (i.e. permanent, temporary, long term or short term). This has been established for each technical topic and through discussion with the relevant statutory consultees, where necessary. Terms used to qualify the duration of an impact or effects are specific to the topic being considered and the standards and criteria used against which topic specific effects are assessed.

2.4.9 The anticipated project construction programme is set out in Chapter 4 to inform the definition of likely periods for construction phase activities.

2.4.10 Decommissioning has not been considered in the ES given the intended longevity and nature of the Proposed Development and, therefore, the ES focuses on likely significant effects during the construction and operational phases only.

## 2.5 Consideration of Alternatives

2.5.1 Schedule 4, Paragraph 2, of the EIA Regulations stipulates the requirements for the ES to address the alternative options considered for the Proposed Development:

*"A description of the reasonable alternatives (for example, in terms of development design, technology, location, size and scale) studied by the developer... and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects."*

2.5.2 Refer to Chapter 5 for the alternatives considered for the Proposed Development.

## 2.6 Approach to Determine Significance

2.6.1 The EIA has assessed the likely significant effects of the Proposed Development against baseline conditions in the same year. Pre-determined assessment criteria are used by each discipline to define the 'likely significant effects' which is outlined within the assessment approach of those disciplines.

### Establishing Baseline Conditions

2.6.2 A range of site surveys and data collection exercises have been used to identify environmental conditions at the Site and in the surrounding area. These are reported in each technical chapter. Survey and assessment reporting can be provided as an appendix to the ES (Volume 3) with a summary provided in Volume 1 of the ES. The geographical scope of these appended surveys and assessments has been based on the likelihood for significant effects in accordance with the scoping exercise summarised above.

2.6.3 Current conditions at the Site have been used as the baseline condition for the ES as it has



been determined that the Site's conditions are unlikely to alter prior to construction of the Proposed Development commencing.

#### Assessing Construction Effects

- 2.6.4 The EIA has assessed the likely significant environmental effects that could be reasonably identified during the construction phase. The assessment has been based on available information and reasoned judgements to enable the likely significant environmental effects to be identified. Construction effects will be temporary and intermittent, and the effects will not occur in one single location throughout the duration of construction. The potential duration and intermittency of effects is identified as appropriate in the relevant technical topic.

#### Assessing Operational Effects

- 2.6.5 To ensure the full environmental effects of the Proposed Development have been considered, and to provide a robust assessment that is consistent between the technical topics, the EIA has focused on assessing the likely significant environmental effects of the completed development.
- 2.6.6 Once operational, the Proposed Development will be in use for 24 hours of the day, all year round.

#### Significance Criteria

- 2.6.7 The two principal criteria for determining significance of an environmental effect are the magnitude of the effect and the sensitivity of the receptor. Each technical topic will provide a specific separate criterion for determining the degree of 'magnitude' and the degree of 'sensitivity' in line with the relevant professional guidance. This is often on a sliding scale from high to medium to low. The interaction between the receptors sensitivity and the magnitude of change likely to be experienced will determine the significance of a particular effect.
- 2.6.8 The approach to assessing and assigning significance to an environmental effect will rely upon such factors including consideration of the EIA Regulations, guidelines, standards or codes of practice, the advice and views of statutory consultees and other interested parties, and expert judgment and may differ between the technical topics.
- 2.6.9 Specific significance criteria have been prepared for each specialist topic, based on the generic criteria, for adverse and beneficial effects, set out in Table 2.2. It should be noted that a broad criteria cannot be used across all disciplines, particularly where best practice and guidance require subtle differences, and that the below table is a general guide only.

Table 2.2: Example degrees of significance based on magnitude/sensitivity

Magnitude of change	Sensitivity of receptor				
		High	Medium	Low	Negligible
	High	Major	Major	Moderate	Negligible
	Medium	Major	Moderate	Minor to Moderate	Negligible
	Low	Moderate	Minor to Moderate	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible



## 2.7 Mitigation

- 2.7.1 The incorporation of mitigation measures to avoid, minimise or compensate for adverse effects is an integral part of the design and related EIA process. A description and the significance of any likely residual effect, namely that which remains after mitigation has been incorporated, is presented in each technical topic.
- 2.7.2 Standard measures and best practice methods have been incorporated in the design of the Proposed Development and the construction methodology to avoid, minimise or manage environmental effects. The relevant technical topics will outline the specific mitigation measures as they relate to their specific environmental theme and how they have been incorporated into the design. Some measures may be subject to appropriate planning conditions and obligations.
- 2.7.3 Where required, the scope of mitigation relating to identified adverse environmental effects of the Proposed Development is described in the appropriate technical topic. Where the effectiveness of the mitigation proposed has been considered uncertain, or where it depends upon assumptions of operating procedures, then data and/or professional judgment has been introduced to support these assumptions.

## 2.8 Cumulative and In-Combination Effects

- 2.8.1 EIA regulations stipulate the requirement to assess the cumulative effects of the Proposed Development within the ES. Within EIA, cumulative effects are generally considered to arise from 'inter-project' and 'intra-project' combined effects.
- 2.8.2 Inter-project cumulative effects are the combined effects of development schemes which individually may be considered insignificant but cumulatively have significant effects. Intra-project cumulative effects are the combined effects of individual effects, including noise, air, traffic etc., on a single receptor assessed as significant. In respect to intra-project cumulative effects, the EIA Regulations state that existing or approved developments should be considered in determining whether significant effects are likely as a result of the Proposed Development. The Planning Inspectorate Advice Note 17: Cumulative Effects Assessment (Version 2) August 2019<sup>3</sup> recommends the following in regard to existing or approved developments:

*"where other projects are expected to be completed before construction of the proposed NSIP and the effects of those projects are fully determined, effects arising from them should be considered as part of the baseline and may be considered as part of both the construction and operational assessment. The ES should clearly distinguish between projects forming part of the dynamic baseline and those in the CEA (Cumulative Environmental Assessment)."*

- 2.8.3 A staged review of 'other developments' to be considered in relation to cumulative impacts has been undertaken in each chapter and summarised in Chapter 16. As per EIA guidance, consideration has been given to the level of certainty of each development in the context of the European's Guidance definition of cumulative effects and how "reasonably foreseeable" these are.

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<sup>3</sup> The Planning Inspectorate Advice, 2019, Note 17: Cumulative Effects Assessment (Version 2)



## 2.9 General Assumptions and Limitations

- 2.9.1 The following assumptions have been used to ensure that the EIA has undertaken an assessment of the reasonable worst-case effects (unless otherwise specified in each of the technical topics):
- baseline conditions are generally considered to be current conditions at the Site and surrounding area, unless materially affected by the developments considered in cumulative effects. Where significant changes are likely to occur in a 'no development' scenario such changes are identified as appropriate within each technical topic. The potential for cumulative effects as a result of the construction and operation of the committed developments has been considered;
  - the design, construction and operational phases of the Proposed Development will satisfy legislative requirements;
  - the assessment has been based on Figures 4.1 - 4.22 (Volume 2), recognising the flexibility in how the development may be built out;
  - suitable planning conditions will be imposed as identified in this ES to secure appropriate mitigation measures (e.g. utilising a CEMP, construction traffic plan etc.); and
  - all information from third parties have been received and up to date.
- 2.9.2 Each topic Chapter will discuss their own assumptions and limitations as they relate to their assessments.

## 2.10 Structure of Technical Topics

- 2.10.1 The EIA process aims to identify the likely significant effects of the Proposed Development. Each technical topic will follow a similar structure to inform the EIA process. This will include:
- Introduction – to introduce the topic under consideration, state the purpose of undertaking the assessment and set out those aspects of the Proposed Development material to the topic assessment;
  - Legislation and planning framework – a summary of the key legislative and policy considerations for the relevant chapter;
  - Assessment approach – what is the method and scope of the assessment and what consultation has occurred to date that is pertinent to the topic;
  - Baseline conditions – outline the baseline environment relevant to the topic including the baseline surveys and modelling undertaken;
  - Assessment of likely significant effects – identifying and evaluating the likely significant effects (direct and indirect) during construction and operational phases;
  - Mitigation, enhancement and residual effects - describing the mitigation measures identified for the significant effects, including any residual effects;
  - Cumulative effects - consideration of potential cumulative and in-combination effects; and
  - Statement of Significance and summary – a concluding statement of significance and a non-technical summary of the Chapter, including baseline conditions, likely



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significant effects, mitigation, residual effects and conclusion.



### 3. Site Context

#### 3.1 Introduction

3.1.1 This Chapter of the ES provides a description of the Site and its surrounding context. It identifies key features of the area, in terms of the land which is occupied by the Proposed Development and its wider surroundings.

3.1.2 Paragraph 3 within Schedule 4 of the EIA Regulations 2017 states that the following should be included in the ES:

*“A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge”.*

3.1.3 In accordance with the EIA Regulations, this Chapter of the ES provides an overview of the Site, whilst each individual Chapter and associated appendices will provide specific descriptions of the Site and surrounding area.

#### 3.2 Existing Development Site

3.2.1 The Site is 14.64 ha in extent. The Site largely comprises an arable field with native hedgerows and narrow field margins.

3.2.2 The predictive Best and Most Versatile (BMV) mapping indicates the Site is in an area with a moderate likelihood of BMV land (20-60 % area BMV). The soil type mapping shows the Site to be Whimble 3 Association, reddish fine loamy or fine silty over clayey soils with slowly permeable subsoils and slight seasonal waterlogging and a land grade of 3b assuming a clay or clay loam topsoil. An Agricultural Soils Assessment accompanies the planning application documentation.

3.2.3 Clay Quarry Wood, a plantation broadleaved woodland, planted around the year 2000 with private fishing ponds adjoins the Site. Prior to that the Site appears to have been under agricultural management for at least a century. The ponds to the north of the Site are shown as a candidate Local Wildlife Site (cLWS) called Bagworth, Clay Quarry Wood pond Candidate Local Wildlife Site.

3.2.4 The Proposed Development will require creation of an access road through the plantation woodland. The access road will follow the footprint of an existing forestry track, which extends west from Station Road through the plantation woodland to the existing arable field and will minimise loss of woodland habitats.

3.2.5 No designated archaeological heritage assets in the form of scheduled monuments are present on the Site or within the immediate landscape. There are no known non-designated archaeological heritage assets on the Site. Historic England Aerial Archaeology Mapping Explorer does not record any cropmarks within the Site or in its immediate environs. Within 1 km of the Site there is one Grade II Listed Building comprising Pickering Grange Farmhouse (NHLE: 1074369). There are no World Heritage Sites, Grade I Listed Buildings, Registered Parks and Gardens or Registered Battlefields within the 5 km study area from the Site.

3.2.6 The Site is not situated within, or adjoining, national or local statutory landscape designations,



and is not situated within a locally designated special landscape area of high landscape value. The Site is situated to the south-southwest of an extensively developed zone which includes large B8 employment units, brick manufacturing plant, clay mineral extraction, process facilities solar photovoltaic farms and a main railway line running between Leicester and Burton upon Trent (*via* Coalville).

- 3.2.7 The Site is located within Flood Zone 1 and therefore has a 'low probability' of fluvial/tidal flooding. the majority of the Site has a very low risk of surface water flooding with an annual probability of flooding of less than 1 in 1000 years (0.1 %). However, a small proportion of the Site has a low to high risk of surface water flooding with an annual probability of flooding of 1 in 1000 (0.1 %) to 1 in 30 (3.3 %) years.

### 3.3 Surrounding Area

- 3.3.1 The Site is located within the administrative area of Hinckley and Bosworth Borough Council (Hinckley and Bosworth Borough Council). The Site is located close to existing residential and commercial areas of Ibstock, Ellistown, Battram, Bagworth and Bardon Hill. Figure 3.1 (Volume 2) provides an overview of the Site in the context of the surrounding settlements and highway network.
- 3.3.2 Station Road is a single carriageway orientated in a north-west to south direction linking to the B585 Ellistown Terrace Road to the north-west and Barlestone Road and Main Street to the south. Station Road acts as arterial road connecting Bagworth to the towns of Bardon Hill and Ibstock. To the northeast of the Site, the B585, also known as Wood Road, connects to the A4511 Barton Road and A4511 Shaw Lane. The A4511 is a principal road and provides connections to Junction 22 of the M1 and the A50 to north-east of the Site and the A42 (Ashby de la Zouch) to the north-west of the Site.
- 3.3.3 The Site is located in proximity to the Applicant's existing Pall-Ex site at Victoria Road, Ellistown. It is understood that no noise complaints have been received from nearby residences with respect to the existing operation. A new large distribution centre for Aldi food stores<sup>4</sup> is in the advanced stages of construction a short distance further southwest along Wood Road (i.e. the B585, which bounds the Site to the north and west). Also, the local area is at the southwest fringes of an existing proliferation of similar storage and distribution type facilities at Bardon Hill and a commercial area including a recycling operation to the southwest of the Site.
- 3.3.4 A footway is located on the eastern side of Station Road and expands to footways on both sides of Station Road. There is a network of Public Right of Ways (PROWs) accessed off Station Road, south of the existing Pall-Ex unit. The PROW network passes around the urban edge of Coalville, as well as the wider open countryside setting to the town.
- 3.3.5 The landscape surrounding the Site is gently undulating with a mix of industrial, commercial, and rural land uses. Situated to the south-southwest of this extensively developed zone, the Site forms a very small part of the wider industrial character of the area.
- 3.3.6 The wider type developments stand at a range of 18-25 m in overall height, with built form associated with mineral operations and brick manufacturing of similar size in height.
- 3.3.7 The wider landscape is characterised by 19<sup>th</sup> century collieries, associated railway lines, 20<sup>th</sup> century allotments brick and pipe works, and a railway running along the northern Site

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<sup>4</sup> Hinckley and Bosworth Borough Council planning application reference 20/00224/FUL.





boundary.

- 3.3.8 There are no European statutory sites for nature conservation recorded within 10 km of the Site boundary and no National statutory sites for nature conservation were recorded within 2 km of the Site boundary. As set out above, a candidate Local Wildlife Site (Bagworth, Clay Quarry Wood Pond) is located adjacent to the Site.
- 3.3.9 At the time of writing, Hinkley and Bosworth Borough Council have no Air Quality Management Areas (AQMA) declared within their jurisdiction. Neighbouring North West Leicestershire District Council (NWLDC) have declared two AQMAs within their jurisdiction, both for exceedances of the nitrogen dioxide (NO<sub>2</sub>) annual mean objective. The nearest AQMA to the Site is the Copt Oak AQMA, declared by NWLDC, located c. 5.1 km northeast of the Site.

### 3.4 Planning Policy Context

- 3.4.1 Planning Policy is discussed further in Chapter 6; however, the development plan relevant to the Site is comprised of Hinckley and Bosworth Borough Council Core Strategy<sup>5</sup> (2006-2026) and the Hinckley and Bosworth Borough Council Local Plan Review (2020 to 2041). The revised version of the Draft Plan (Reg 18) was consulted upon in the summer of 2024. The Council anticipated public consultation of the Submission Draft Plan (Reg 19) to conclude in February 2025 with a programmed date for adoption in January/February 2026.
- 3.4.2 Relevant policies within the Hinckley and Bosworth Borough Council Local Plan Review and Hinckley and Bosworth Borough Council Core Strategy are discussed in individual technical topics of this ES where relevant, and a Planning Statement accompanies the planning application documentation.

### 3.5 Site Suitability

- 3.5.1 The surrounding industrial areas provide a suitable context in which to develop, with the Proposed Development forming part of a broader employment lands belt in the area including Bardon Industrial Estate.
- 3.5.2 The Site is the only location identified that would meet the unique requirements of the client's operational need following a sequential assessment exercise by HLPC, the details of which can be found in the planning application documentation. No preferable site was identified to deliver the requirements of Policy DM20.
- 3.5.3 The Site has been chosen because of its size, proximity to current operational centres of the client, consideration of environmental value for the majority of the footprint of the Site required to deliver the scheme and access to strategic road network. Furthermore, the Site is an appropriate location for the staff in nearby operational centres and nearby populations (Coalville, Ibstock and Bagworth) for local employment.

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<sup>5</sup> Hinckley & Bosworth Borough Council, 2009, *Local Development Framework: Core Strategy*.



## 4. Proposed Development

### 4.1 Introduction

- 4.1.1 This Chapter of the ES sets out the description of the Proposed Development. Specifically, this Chapter will define the Site, study area, maximum quantum of the Proposed Development, site access and will describe the Proposed Development in line with Schedule 4 of the EIA Regulations as far as possible considering the nature of the application. Construction methodology and processes will also be broadly described. Further drawings can be found as part of the planning application documentation together with a Design and Access Statement.
- 4.1.2 Schedule 4, Part 1 of the 2017 EIA Regulations outlines the information that should be provided within an ES, including a 'Description of the Development'. This description is to include:
- a) *"a description of the location of the development;*
  - b) *a description of the physical characteristics of the whole development, including, where relevant, requisite demolition works, and the land use requirements during the construction and operational phases;*
  - c) *a description of the main characteristics of the operational phase of the development (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used; and*
  - d) *an estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the construction and operation phases)".*
- 4.1.3 Alongside the plans submitted for approval, the information presented in this Chapter form the basis of the EIA and provides the level of detail required to enable the assessment of likely significant environmental effects in line with the EIA Regulations.

### 4.2 The Need for the Development

- 4.2.1 The distribution hub is proposed to provide a new home for Pall-Ex Group. Pall-Ex Group is one of the UK's leading palletised freight distribution networks. It forms the largest overall collection of members within the UK. Pall-Ex Group distributes thousands of consignments every day, through its 130+ network of shareholder members, from a range of industries around the UK and throughout the globe.
- 4.2.2 Over the past few years, the Pall-Ex Group has experienced a period of substantial growth and the company has ambitions to develop and grow significantly.
- 4.2.3 Pall-Ex Groups main hub is located to the north east of the Site, on the opposite side of the junction of Wood Road and Station Road. They have outgrown the existing hub and it is not fit for their future (in addition to the existing hub not being designed to meet the unique operational requirements of Pall-Ex which reduces their efficiency, the larger scale of the Proposal would increase the number of crates they can process from 9,000 to 27,000 a day).
- 4.2.4 Pall-Ex have been searching for a new home for 4 years. An extensive search, assisted by the industrial agency team at Harris Lamb, was repeatedly hampered because of their unique



operational requirements that made them uncompetitive in the open market (i.e. the operational requirements of Pall-Ex mean that the ratio of floor space to external circulation areas is relatively low which mean they cannot pay as much for a site). This led to the Site being identified to deliver a design and build in conjunction with the Applicant.

### 4.3 The Proposed Development

- 4.3.1 The Site is 14.64 ha in size. The Applicant will submit a full planning application for a new distribution hub with ancillary offices, quality control office and canopy, maintenance units, and gatehouse, and associated infrastructure and landscaping.
- 4.3.2 The fundamental principle behind the layout is the safe access to and from the Site to the existing road network, the specific requirements of heavy goods vehicle (HGV) palletised freight to be able to access buildings and safe orienteering around the Site together with minimising environmental impact but exploiting gaps within the existing plantation woodland.
- 4.3.3 For the purpose of this ES, this assumes the Proposed Development falls within the B8 (Storage and Distribution) Class of The Town and Country Planning (Use Classes) Order 1987 (as amended)<sup>6</sup>. This includes the large warehouse, the gatehouses, offices for quality control and operations and maintenance units (see Figure 4.1 – Figure 4.22; Volume 2).
- 4.3.4 The development parameters are illustrated in the architectural drawings provided as part of the planning application, as shown below in Table 4.1 and Figures 4.1 - 4.22 (Volume 2). Additional figures have been submitted with the planning application.

**Table 4.1: List of key drawings**

Figure number	Figure description
Figure 4.1	Existing Block Plan
Figure 4.2	Proposed Block Plan
Figure 4.3	Proposed Site Plan - Orientated
Figure 4.4	Warehouse Plans
Figure 4.5	Forklift Maintenance - Plans and Sections
Figure 4.6	Main Office Elevations
Figure 4.7	Main Office Floor Plans
Figure 4.8	Warehouse Elevations
Figure 4.9	Proposed Site Section
Figure 4.10	Maintenance Unit Floor Plans
Figure 4.11	Maintenance Unit Elevations
Figure 4.12	Incoming Gatehouse
Figure 4.13	Outgoing Gatehouse
Figure 4.14	Quality Control Office - Plans and Elevations
Figure 4.15	Quality Control Building - Plans and Elevations

<sup>6</sup> The Town and Country Planning (Use Classes) Order, 1987, (as amended).



Figure number	Figure description
Figure 4.16	Satellite Gatehouse
Figure 4.17	Fence and Barrier Plans
Figure 4.18	Cycling Shelter – Detailed Study
Figure 4.19	Smoking Shelter – Detailed Study
Figure 4.20	Waste Compounds – Detailed Study
Figure 4.21	Indicative Proposed 3D Visuals
Figure 4.22	Illustrative Landscape Masterplan Part 1
Figure 4.22	Illustrative Landscape Masterplan Part 2

- 4.3.5 These plans have been assessed against baseline conditions within each environmental discipline. Along with the written description of the Proposed Development, these plans allow for likely significant effects to be fully assessed and appropriate mitigation measures secured.
- 4.3.6 The Illustrative Landscape Masterplan (Figure 4.22; Volume 2) will deliver long-term landscape, biodiversity, recreation and sustainability benefits through the introduction of new habitats, landscape enhancement and the creation of accessible natural green space, contributing to the wider green infrastructure network.
- 4.3.7 Details of the Proposed Development are provided below, with further details contained with the Design and Access Statement (DAS) accompanying this planning application.

#### 4.4 Land Use and Building Heights

- 4.4.1 The Proposed Development will include a mix of land uses including built form, infrastructure and access, and open space and landscaping, categorised under Class B8 (Storage and Distribution).
- 4.4.2 For the purpose of the ES, the total GIA (35,504 m<sup>2</sup>) is assumed to be split into the approximate quantum, as shown below in Table 4.2.

**Table 4.2: Approximate quantum of the built development (see Figure 4.3)**

Development type	Size (m <sup>2</sup> )
Warehouse (inc. general office)	31,726
Forklift maintenance building	408
Gatehouse facilities	55
Ancillary offices over 4 floors	2,523
QC offices	170
Vehicle Maintenance Units	622
Vehicle loading canopies	10,239
Roof canopy over QC building	2,422

- 4.4.3 In addition to the buildings, there will be associated developments, including fully managed yards, HGV parking, ancillary parking for office parking, and landscaping (Figure 4.3; Volume 2). The roof of the warehouse will have capacity to receive solar panels to support with the



aspiration to attain BREEAM excellent for the Site.

- 4.4.4 Each built form parcel will include high quality buildings with appropriate colour and materials as set out in the Design and Access Statement. Indicative 3-D visualisations are provided in Figures 4.21 (Volume 2).
- 4.4.5 The operational needs drive the warehouse plan for. Arriving vehicles begin a one-way journey around the building with multiple queueing and parking arrangements. The layout includes for provision for:
- 67 Level Access doors;
  - 2 dock doors;
  - 4 main entrance/exit vehicle doors;
  - 201no. car parking bays;
  - 156 HGV parking bays;
  - 20no. Electric Vehicle Charging bays including 2no,. accessible bays;
  - 48no. cycle bays; and
  - 6no. motorcycle bays.

## 4.5 Landform and Proposed Levels

- 4.5.1 Earthworks will be required to appropriately prepare the Site for development. The Site is anticipated to generate approximately 33,000 m<sup>3</sup> of topsoil at an average depth of 250 mm, 6,000 m<sup>3</sup> of which will be retained on site for soft landscaping purposes. The remainder will be removed to either a licensed tip or a registered recycling business. A significant amount of subsoil cut shall take place to the southwest corner of the Site, following the topsoil strip, which will be placed in engineered layers of no greater than 300 mm deep to the central and eastern areas, to a maximum depth of approximately 5.4 m. The majority of the materials will be natural clays, although as noted above, there are pockets of made ground that will also be removed and re-deposited across the Site.
- 4.5.2 Deployment of 1-2 % volume of lime to subsoil may be used during the earthworks exercise to strengthen the soft clays to the west of the Site and manage water impacted clays due to adverse weather conditions.
- 4.5.3 During the earthworks exercise, water from heavy rainfall events and minor pockets of ground water will have to be managed by the Contractor and discharged into the existing surface water system in a controlled fashion, through silt busters or similar approved techniques.
- 4.5.4 It is estimated that the earthworks exercise including the topsoil strip will take up to 8-10 weeks to administer, subject to favourable weather conditions.

## 4.6 Vehicle Access and Circulation

- 4.6.1 To facilitate access to the Site, a new access road is proposed approximately 100 m north of the existing Wiggs Farm access road along Station Road, as illustrated in Figure 4.3 (Volume 2). A new priority junction of an appropriate size will accommodate HGV movements to prevent queueing off the main highway (see Chapter 7). The location was chosen to follow the area of maintained habitat underneath existing pylons to minimise woodland loss. The



location of the access requires some loss of hedgerow and wood to achieve the required visibility. Lighting will be provided and details can be found within the Lighting Scheme submitted with the planning application. Internal pedestrian pathways will be created to provide safe access around the Site.

- 4.6.2 A footway is included to connect with the Site to the existing network and local amenities. The Proposed Development will include a new footpath connection across the west side of the Station Road. This will link to a new pedestrian crossing point with a central refuge island, in addition to an on-road cycle connection point.
- 4.6.3 There is a network of Public Right of Ways (PROWs) accessed off Station Road, south of the existing Pall-Ex unit. National Cycle Route (NCR) 63 extends along Station Road and is generally an on-road cycle route with sections off-road between Measham and Ratby. NCR 63 provides access to Bagworth and Leicester.
- 4.6.4 Onward Goods vehicle access is controlled at the end of the internal roadway, *via* dedicated gatehouses and security barriers. Onward access to the car parking areas for office staff and visitors, is freely accessible during office hours. Pedestrian and cycle access is located *via* a shared roadway along the northern edge of the internal access road providing linkage to the cycle storage provisions located within the staff car park. Pedestrian access to the main offices from the car park is *via* a pedestrian security gate, which then leads to a dedicated internal pedestrian crossing point.

#### 4.7 Green Infrastructure, Landscape and Surface Water Drainage

- 4.7.1 The provision of green infrastructure is an integral part of the Proposed Development and are primary mitigation measures to minimise the impact of the Proposed Development on landscape character, visual amenity and biodiversity. The green infrastructure proposals have included the following principles.
- 4.7.2 Contribution to the wider green infrastructure network and connections through the Site by retaining hedgerows and optimising the retention of Clay Quarry Wood by using open rides through the woodland to minimise loss of woodland. Maintain hedgerows and woodland to maintain connectivity to wider areas of habitat such as Bagworth Heath Wood Country Park and extensive woodland found at Grange Wood and Common Hill Wood, all situated locally to the Site.
- 4.7.3 The creation of new habitats on site as far as practicable to provide mitigation for the loss and disruption of vegetation and habitats as a consequence of the built development. New habitats within the green infrastructure framework include:
- woodland/scrub planting;
  - individual native trees;
  - species rich hedgerows;
  - mixed grassland habitats, e.g. species rich grassland, meadow grassland and amenity grassland; and
  - creation of wetland features (SUDs attenuation ponds).
- 4.7.4 Through the planning process, measures will be put in place with regard to the on-going management of the on site green infrastructure through the Biodiversity Gain Condition and where required a Habitat Management and Maintenance Plan (HMMP). The HMMP will set



out various management regimes for all the green infrastructure (e.g. retained and new habitats) to ensure their initial establishment and their ongoing maintenance and aftercare for at least 30 years. This will be prepared as part of a planning condition and subject to agreement with the LPA as required by the Environment Act 2021.

- 4.7.5 Surface water precipitated on to the building's roof and concrete service yards shall be collected in underground pipework and attenuated into below ground storage crates and above ground basins. The above ground basins will naturally filter the water prior to being discharged under a restricted flow.
- 4.7.6 Service yard drainage will pass through a suitably sized petrol interceptor prior to being discharged into the attenuation system described above. All car parking areas shall be drained through permeable tarmac to filter out impurities which is a recognised SUDs system. Drainage to soft landscape areas will use suitably sized filter drains which will discharge to catch pits prior to being released into the open storage basins. Filter drains will be positioned in relation to the designed planting scheme.
- 4.7.7 To minimise noise impacts the Proposed Development incorporates physical acoustic screening as shown on Figure 4.17 (Volume 2). Chapter 9 sets out the measures for minimising noise and vibration impacts during construction.

## 4.8 Security

- 4.8.1 Due to the nature of freight operations, the Proposed Development will need to be entirely secure with security staff manned and controlled 24 hr a day. Security fencing will either be a paladin fence, concrete retaining walls with fall guarding and acoustic fences. CCTV will be included within the Proposed Development and lighting.

## 4.9 Sustainability

- 4.9.1 The Design and Access Statement sets out the design principles which have had sustainability at its core such as:
- minimising biodiversity loss by using routes through the woodland for access;
  - creating new habitats within the Site;
  - consideration of appropriate materials for construction;
  - using sustainable materials and supply chains as far as possible;
  - designing the building for thermodynamic efficiency;
  - targeting BREEAM excellent from project conception;
  - designing water efficiency into the scheme; and
  - including internal and external waste recycling facilities and electric car charging points.

## 4.10 Construction

### Programme and Phasing

- 4.10.1 The nature of the planning application must allow for flexibility in the planning for





construction. The design remains subject to modification, as does the construction methodology, while Site development continues. As a result, the significant effects of construction have been identified with the best possible degree of accuracy.

- 4.10.2 Subject to securing the necessary planning permission, the construction of the Proposed Development will be phased over the 12 month construction period. For the purpose of the EIA, it has been assumed that construction of the Proposed Development would commence on site in Q4 2025 with the Proposed Development operational by Q1 2027.

#### **Construction Methodology**

- 4.10.3 In accordance with construction best practice and ecological guidance and/or licencing, preliminary works including Site set up and ecological protection works would be carried out initially as part of construction.
- 4.10.4 Early construction process would involve earthworks and surface levelling. A Site compound would be set up to provide Site office, welfare facilities, storage cabins and external materials setting down areas. The location of the compound is likely to change throughout the construction programme to best accommodate the works being carried at the time. It is anticipated that the Site compound would be hard-surfaced, security fenced with CCTV cameras and external temporary lighting for use during hours when illumination falls below safe working levels and for security. The temporary lighting will adhere to best practice guidance outlined in Guidance Notes for the Reduction of Light Pollution, and requirements of ecology mitigation.
- 4.10.5 To ensure likely significant effects that may arise from the construction of the Proposed Development are actively managed and reduced to an acceptable level, an Outline Construction Environmental Management Plan (Outline CEMP) has been prepared (Appendix 4.1; Volume 3 of the ES). The final CEMP is expected to be discharged through a planning condition and will evolve as the project progresses and will reflect the final construction programme. The Outline CEMP includes:
- housekeeping procedures and environmental control measures;
  - prohibited or restricted operations including location, hours, emergency work etc.;
  - details of construction operations highlighting any operations likely to result in disturbance and/or working hours outside the core working period, with an indication of the expected duration of key phases and dates;
  - procedures for managing environmental risks and responding to environmental incidents;
  - standard measures to control and mitigate potential for noise, dust, air quality and water pollution;
  - the role of an ecologist to provide pre-commencement surveys as requested and implement ecology method statements;
  - any requirement for monitoring and record keeping; and
  - procedures for regular dialogue with the Council, relevant authorities and the local community.
- 4.10.6 A number of standard construction best practice measures are described in the Outline CEMP:





- selection of construction methodologies to minimise generation of noise, vibration and/or dust;
- all vehicles and/or plant to be switched off when not in use;
- the Site compound and storage of materials to be appropriately sited to reduce environmental risk and appropriately secured;
- stockpiles of soil materials to be appropriately sited to reduce environmental risks, of an appropriate height/batter to avoid slippage, with appropriate surface water management that is subject to dust control measures;
- buffers to retained habitats
- wheel and/or vehicle body washing facilities to be used to prevent tracking out of mud/dust onto the public highway using wheel wash or wash skip out; and
- all liquids and solids of potentially hazardous nature (e.g. diesel fuels, oils and solvents) to be stored on surfaced areas with appropriate bunding to reduce the risk of spillage;

4.10.7 The Outline CEMP will require updating prior to the commencement of any construction activities. The contractor will be required to produce and submit a more detailed CEMP that is cognisant of the proposed construction activities, equipment and plant usage and environmental and ecological monitoring plan for the Proposed Development. The detailed CEMP will be specific, targeted, and 'stand-alone' plans developed to support the detailed design and construction methodologies established during the next phase of the Proposed Development. The detailed CEMP will be provided to Hinkley and Bosworth Borough Council for consultation and approval in advance of any construction works on site.

4.10.8 Construction of the Proposed Development will use standard construction plant and machinery, including long-reach excavators, bulldozers, tippers, front-end loaders, scrapers, hydraulic excavators, back hole loaders, and piling rigs.

#### **Earthworks**

4.10.9 Cut and Fill ground re-modelling will be used to create predominantly level development platforms appropriate for the logistics units including goods vehicle access and loading facilities. The Site levels design has been calculated to balance the in-ground levels to remove the need to import surplus material to the Site.

#### **Hours of Work**

4.10.10 The below working hours are anticipated for construction of the Proposed Development:

- 07.00 – 19.00 h Monday to Friday;
- 07.00 – 13.00 h Saturday; and

4.10.11 Working hours will be agreed with Hinkley and Bosworth Borough Council prior to commencement of work. Working hours outside of those stated above will be subject to agreement prior to work commencing with Hinkley and Bosworth Borough Council, who may impose certain conditions, including nighttime working.



### **Traffic Management and Vehicle Routing**

- 4.10.12 The Site is anticipated to generate approximately 170 daily car and HGV movements during construction. Construction traffic will include the movements of workers and material associated with the construction of infrastructure. Any planned closures or diversions of roads or footpaths will be agreed to with the Highway Authority and relevant emergency services and advanced notice provided by the Applicant. Road closures are not expected to be required at this stage.
- 4.10.13 All construction traffic entering and leaving the Site will be closely controlled. Vehicles making deliveries to the Site will travel *via* designated routes, which would be agreed with the Highways Authority. It is anticipated that construction traffic would route north along Station Road to the B585, and then along the A511 towards Junction 22 of the M1.
- 4.10.14 Access to the Site is currently from Station Road on the eastern boundary of the Site. The Proposed Development will require a new access road to be created through the existing forestry track.
- 4.10.15 The following factors will be considered to minimise the number of construction vehicles using the public highway:
- recycling of materials on site, where possible;
  - preparation of a Site Waste Management Plan (SWMP);
  - preparation of a CEMP;
  - managing construction traffic access times to minimise peak hour movements;
  - communication of clear traffic route requirements to contractors and suppliers to reinforce the appropriate routes to the Site; and
  - contractual obligations imposed on the supply chain.
- 4.10.16 Site management and workers will be encouraged to use public transport when travelling to the Site. The use of public transport will be a topic of discussion during pre-tender.
- 4.10.17 The Site will be set up to ensure staff and visitors do not obstruct access and circulation roads when parking. To do so, the below will be considered for site set up:
- designate an area on site for Site personnel and visitor parking;
  - prevent delivery vehicles from queuing outside the Site boundary; and
  - make delivery drivers aware of traffic restrictions on and around the Site.
- 4.10.18 If necessary, pedestrian routes through the Site for the workforce will be segregated from vehicle routes using clearly defined crossing points and barriers in appropriate locations with good visibility of approaching traffic.

### **Construction Materials and Resource Use**

- 4.10.19 Sustainable and/or local sources will be used where practicable for materials and resources during construction of the Proposed Development. Materials produced during construction as the result of breaking out of hard surfaced areas will be reused or recycled on site. If the materials cannot be recycled, they will be transferred to an appropriately licenced recycling facility.



### **Waste Management, Recycling and Disposal**

- 4.10.20 It is anticipated that construction will give rise to a range of waste including demolition spoil, soils, packaging (including plastics, pallets, expanded foams etc.) and liquids (including dirty water, fuels etc.). If not controlled, waste materials can be generated as a result of inaccurate ordering, poor usage, badly stored materials, poor handling and spillage.
- 4.10.21 The project aims to minimise waste as much as possible and contractors will be required to investigate opportunities to minimise waste arisings at source and, where such waste generation is unavoidable, to maximise the recycling and reuse potential of demolition and construction materials. The SWMP will set out the procedures to sort, reuse and recycle construction waste and adherence to the management plan will ensure better control over materials handling and waste compliance with relevant waste legislation for the handling, transport and disposal of wastes, compliance with environmental management systems and management of waste-related costs.

### **Prior notice**

- 4.10.22 Hinkley and Bosworth Borough Council and relevant property owners or occupiers wherever possible will be notified in advance of unusual activities or events that can be anticipated.

## **4.11 Utility**

- 4.11.1 The Site has a small number of utilities and services located on site and close to the Site boundaries. These include:
- proposed 33KV underground HV cable route; and
  - proposed 11KV underground HV cable route.
- 4.11.2 The Site is in close proximity to existing utilities infrastructure to enable future connectivity and to service the Proposed Development. Discussions have been undertaken with the respective utilities suppliers and initial points of connection have been provided for new suppliers together with the potential for off site reinforcement where required.



## 5. Consideration of Alternatives

### 5.1 Introduction

- 5.1.1 This chapter sets out the main alternatives considered by the Applicant during the project development and EIA process. It includes a summary of the process that the Applicant went through leading up to the selection of the Site, its scale, together with a description of the alternative design and layout options that have been considered as part of the design evolution, having regard to relevant environmental effects amongst other considerations such as land negotiations, and technical and commercial feasibility.
- 5.1.2 Regulation 14(2) of the EIA Regulations sets out what an ES should include and cross-references with Schedule 4 of the EIA Regulations. Paragraph 2 of Schedule 4 states an EIA must include:
- “A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the developer, which are relevant to the Proposed Development and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.”*
- 5.1.3 Furthermore, the EIA regulations require the Applicant to provide an indication of the main reasons for the Applicant’s choice for the Proposed Development, taking into account the environmental, social and economic effects and include, where relevant, technical and commercial feasibility.
- 5.1.4 The Applicant has considered the below main alternatives for the Proposed Development:
- the 'no development' or 'do nothing' alternative;
  - alternative locations for the Proposed Development;
  - alternative uses for the Site; and
  - alternative designs within the chosen site.

### 5.2 Do Nothing

- 5.2.1 The 'do nothing' option evaluates the environmental condition of the Site if the Proposed Development was not to occur. Schedule 4 of the EIA Regulations states that the assessment of alternatives provides *“an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed”*. Chapter 3 provides a description of the baseline environment of the Site.
- 5.2.2 If the Proposed Development was to not proceed, there could be no significant changes expected to the baseline environment, and it is expected to be continued to be farmed (arable field) and the woodland areas to be managed occasionally (largely under the existing Pylons). The environmental conditions of the Site would be expected to largely remain at their baseline level as described in Chapter 3.
- 5.2.3 The Proposed Development will make a significant contribution towards providing employment opportunities and creating jobs in the local area, as well as meeting employment needs. If the Proposed Development did not proceed, there would be no contribution to the local economy associated with job creation required for the consistent operation of the Proposed Development in this locality. The Applicant would still need a new location from



which to operate and would need to search further afield putting the existing local jobs and the local social and economic contributions the Applicant makes to the local area at risk.

### 5.3 Consideration of Alternative Development

- 5.3.1 This is the only location that has been explored that meets the unique requirements of the Applicant's operation following a sequential assessment undertaken by HLPC, the details of which can be found within the planning application documentation. All other locations have been ruled out as they would not meet the Applicant's requirements. The Site has been chosen because of its size, proximity to current operational centres of the client, consideration of environmental value, low agricultural value and access to Strategic Road Network (SRN).
- 5.3.2 The Site is an appropriate location for the staff in nearby operational centres and nearby populations for local employment, including Coalville, Ibstock and Bagworth. In addition, this Site is in a location where the Applicant has control of the land to deliver the scheme upon approval.

### 5.4 Design Alternatives

- 5.4.1 The design of the Proposed Development has considered the environmental constraints and opportunities of the Site which has influenced the iterative EIA and design process. The early stages of the design process utilised environmental desktop reviews, interim assessments of the emerging Proposed Development, input from environmental specialists and baseline surveys to influence the design of the Proposed Development. This design process has enabled the team to identify appropriate mitigation measures and incorporate those measures into early design.
- 5.4.2 Key constraints and opportunities of the Site have been influential in the early design process and they have helped to refine the scheme which is now proposed and seeking approval. The key constraints and opportunities include:
- connectivity to the strategic road network;
  - existing site access points from Station Road and/or Wood Road;
  - proximity to existing Pall-Ex Site to maximise retention of jobs in locality;
  - prioritisation of landscape and design principles to achieve a high-quality development;
  - retention of hedgerows to support with biodiversity, habitat connectivity and natural screening;
  - focussing the development on habitats of low biodiversity value as far as the operational needs of the development can accommodate;
  - area low probability to flooding; and
  - using existing woodland to maximise screening.
- 5.4.3 The key driver for the design of the warehouse was the process in which the operator utilises the Proposed Development for the tipping (unloading) and loading of HGVs. The design has been based on the rapid turnaround of vehicles during a single night shift. Driving through the centre of the unit allows the palletised goods to be easily unloaded and selectively distributed



onto the open warehouse floorplate. From here the grouped goods are then reallocated to the peripheral open external doors and loaded onto waiting HGV's for their onwards road distribution. This system dictated the long and thin warehouse plan required, with the building surrounded by HGV loading canopies and yards.

- 5.4.4 The offices were oriented to face the incoming primary access point of the Site, and to afford the offices with views and open space to improve the internal working environment in terms of orientation and natural day lighting.
- 5.4.5 The operational requirements of the Proposed Development necessitates the removal of some woodland although as far as possible the development has been sited on low value habitats. The access was targeted to the area through the woodland limiting woodland loss. The requirements of a safe visibility splay at the access point from Station Road necessitates removal of hedgerow and a tree.
- 5.4.6 Changes to the Proposed Development have been informed by following the environmental assessments described in this ES and feedback received from statutory consultees prior to design fix. Some of the key environmental considerations which were considered as the design evolved were:
- Retention of woodland as far as practicable by targeting access through existing grassland rides within the woodland.
  - Inclusion of amphibian pass to respond to the presence of amphibians and reptiles.
  - Moved the development footprint away from existing hedgerows to retain habitat connectivity.
  - Introduction of acoustic barrier to key areas of the Site to minimise noise impacts.
  - Design of buildings heights and orientation to minimise visual impacts.
  - Orientation of buildings to maximise sustainable climate control conditions.

## 5.5 Consultation

- 5.5.1 A range of consultation and public engagement events/meetings were undertaken in addition to the EIA Scoping Opinion request as set out in Chapter 2. The aim was to understand the key issues including environmental which needed to be addressed within the planning application.
- LCC Highways Pre-app submission – 12th March 2024
  - LCC Highways Pre-app response – 27th March 2024
  - Meeting with Head of Street Scene Services 10th April 2024
  - Pre-app response submitted 17th April 2024
  - Pre-app response received 18 July 2024
  - Thornton Parish Council meeting – attended by MD Pall-Ex – 13th May 2024
  - Bagworth Parish Council meeting – attended by MD Pall-Ex – 14th May 2024
  - Bagworth Parish Council meeting – attended by MD- 3rd March 2025
  - Meeting with the Chief Executive Officer and Leader of the Council 17th January 2025



- Meeting with Councils Green Space Officer to discuss BNG offsetting – 16 April 2025
- Meeting with Councils External Landscape Consultant – 26<sup>th</sup> March 2025
- Meeting with Councils head of planning – 6th February 2025

5.5.2 In addition individual technical leads consulted with the LPA or other stakeholders as set out in each chapter.



## 6. Planning Policy Context

### 6.1 Introduction

- 6.1.1 The purpose of this Chapter is to establish the planning policy framework applicable to the Proposed Development. This Chapter of the ES should be read in conjunction with the technical topics of the ES which address the policies that relate specifically to each of the disciplines.
- 6.1.2 Local planning policy pertinent to the Proposed Development are outlined below and further details can be found within the Planning Statement which accompanies the application.

### 6.2 Local Policy

#### **Local Development Plan**

- 6.2.1 The Local Development Plan consists of the:
- Core Strategy – December 2009; and
  - Site Allocations and Development Management Policies DPD<sup>7</sup> (SADMP).
- 6.2.2 The Local Development Plan covers the period 2006-2026. The plan period only has a year to run, and the strategy and policies established within were not designed to meet the development needs after this period. Consequently, the policies in the plan need to be read accordingly and the degrees of weight given to the policies will correlate with their consistency with the policies in the National Planning Policy Framework (NPPF).
- 6.2.3 Policies DM4 and DM20 of the SADMP are relevant to the principle of development. Policy DM20 seeks to direct employment development to the sites within settlement boundaries and/or previously developed land in the first instance, but it does not exclude the delivery of employment proposals on greenfield sites outside of the settlement boundaries, subject to meeting the criteria within it. Similarly, Policy DM20 supports the development of proposals that will significantly contribute to economic growth and job creation, subject to meeting the criteria in it.
- 6.2.4 In meeting the terms of Policy DM4 and DM20 the Proposal would be acceptable in principle. By contrast, the weight to be given to any potential conflict should be reduced to take account of the age of the policies and the fact that the existing settlement boundary were only supposed to guide development until 2026 based on the development requirements at that time. There are currently no policies in place to guide development which will be completed after March 2026, which is when the proposed employment scheme will be completed.
- 6.2.5 Other policies relevant to the Proposal are listed below. Where appropriate, the detail of these policies is provided in the relevant chapters of this ES.

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<sup>7</sup> Hinckley and Bosworth Borough Council, 2016, Site Allocations and Development Management Policies DPD.





#### Core Strategy

- Policy 21 – National Forest.

#### SADMP

- DM1 Presumption in Favour of Sustainable Development;
- DM3 Infrastructure and Delivery;
- DM4 Safeguarding the Countryside and Settlement Separation;
- DM6 Enhancement of Biodiversity and Geological Interest;
- DM7 Preventing Pollution and Flooding;
- DM10 Development and Design;
- DM11 Protecting and Enhancing the Historic Environment;
- DM17 Highways and Transportation;
- DM18 Vehicle Parking Standards; and
- DM20 Provision of Employment Sites.

#### **Emerging Local Plan**

- 6.2.6 Hinkley and Bosworth Borough Council are in the process of reviewing their local development plan. The Regulation 18 consultation was held between July and September 2024, and it is understood that the Council are currently reviewing the implications of the changes to national policy which came into force in December 2024 on the emerging plan.
- 6.2.7 Whilst the emerging plan currently holds limited weight owing to its relative early stage in production, it is relevant to note that the Site has been identified as a draft employment allocation with the potential of meeting the strategic B8 requirements.

### **6.3 National Policy**

- 6.3.1 National planning policy of relevance to the Proposed Development:
- National Planning Policy Framework (NPPF) – December 2024<sup>8</sup>; and
  - Planning Practice Guidance<sup>9</sup>.
- 6.3.2 Paragraph 2 of the NPPF states that applications for planning permission must be determined in accordance with the development plan unless material considerations indicate otherwise.
- 6.3.3 Paragraph 11 of the NPPF establishes a presumption in favour of sustainable development. It explains that in the context of decision taking, this means:
- approving proposals that accord with an up-to-date development plan without delay; or
  - where there are no relevant development plan policies, or the policies which are

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<sup>8</sup> UK Government, 2021, National Planning Policy Framework.

<sup>9</sup> UK Government, 2024, Planning Practice Guidance.



most important for determining the application are out-of-date, granting permission unless:

- i. the application of policies in this Framework that protect areas or assets of particular importance<sup>7</sup> provides a strong reason for refusing the development proposed; or
- ii. any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole, having particular regard to key policies for directing development to sustainable locations, making effective use of land, securing well-designed places and providing affordable homes, individually or in combination.

6.3.4 Paragraph 85 of the NPPF states that planning policies and decisions should help create the conditions in which businesses can invest, expand and adapt. Significant weight should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development.

6.3.5 Paragraph 88 of the NPPF states that planning should support the sustainable growth and expansion of all types of business and enterprise in rural areas.

6.3.6 Paragraph 174 of the NPPF states that planning decisions should protect valued landscapes and recognise the intrinsic character and beauty of the countryside.

6.3.7 The following chapters of the NPPF which are also relevant to the Proposed Development include:

- Chapter 9 – Promoting Sustainable Transport;
- Chapter 11 – Making Effective Use of Land
- Chapter 12 – Achieving well-designed places;
- Chapter 14 – Meeting the challenges of climate change, flooding and coastal change;
- Chapter 15 – Conserving and enhancing the Natural Environment; and
- Chapter 16 – Conserving and enhancing the Historic Environment.



## 7. Traffic and Transport

### 7.1 Introduction

- 7.1.1 This Chapter of the Environmental Statement (ES) presents the findings of Environmental Impact Assessment (EIA) completed in relation to the construction and operational impacts of the Proposed Development on Traffic and Transport.
- 7.1.2 This Chapter summarises information from supporting studies, technical reports and publicly available data which are included within the Transport Assessment.
- 7.1.3 This Chapter was undertaken by DTA Transportation who have extensive experience in undertaking Traffic and Transport Assessments and modelling. Refer to Appendix 2.1 (Volume 3)

### 7.2 Legislative and Planning Framework

#### Relevant Legislation

- 7.2.1 The principal legislative and planning context in relation to the assessment of the effects of the Proposed Development on Traffic and Transport is presented below.

#### Relevant Planning Policy

##### Local Policy

- 7.2.2 Local planning policy of relevance to Traffic and Transport and pertinent to the Proposed Development includes:
- Leicestershire Highways Design Guide<sup>10</sup>;
  - The Hinkley and Bosworth Borough Council Local Plan (2006-2026)<sup>11</sup>; and
  - Emerging Local Plan<sup>12</sup>.

##### National Policy

- 7.2.3 National planning policy of relevance to Traffic and Transport and pertinent to the Proposed Development includes:
- National Planning Policy Framework (December 2024)<sup>13</sup>; and
  - Department for Transport Circular 01/2022<sup>14</sup>.

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<sup>10</sup> Leicestershire County Council. Highways Design Guide

<sup>11</sup> Hinkley and Bosworth Borough Council, 2006-2026. The Hinkley and Bosworth Borough Council Local Plan

<sup>12</sup> Hinkley and Bosworth Borough Council, 2020 to 2041. Emerging Local Plan

<sup>13</sup> Ministry of Housing, Communities & Local Government, 2024. National Planning Policy Framework.

<sup>14</sup> Department of Transport, 2022. Circular 01/2022.



## 7.3 Assessment Approach

### Consultation

- 7.3.1 Consultation and engagement have informed the Traffic and Transport assessment. Table 7.1 outlines the engagement that has been undertaken to inform this assessment.

**Table 7.1: Key consultation information**

Consultee	Points raised	Response
LCC	Offsite impacts are required to be tested where a greater than 30 vph increase is forecast. Use of Pall-Ex data to inform traffic distribution. Travel Plan required to support application.	All points raised have been considered and incorporated into the transport assessment and travel plan.
National Highways	Transport Assessment should be provided in support of the application. Particular interest in impacts at M1 junction.	All points raised have been considered and incorporated into the transport assessment and travel plan.

### Methodology

- 7.3.2 Chapter 2 of the ES describes the general approach to the assessment. This Chapter of the report provides specific details of the Traffic and Transport methodology applied to the assessment of the Proposed Development.
- 7.3.3 In addition to the legislation and national and local planning policies outlined in Chapter 7.1.1, this assessment has also been carried out in accordance with the following professional standards and guidance:
- Institute of Environmental Management and Assessment Guidelines for Environmental Assessment of Traffic and Movement<sup>15</sup>

### Study Area

- 7.3.4 The Institute of Environmental Management and Assessment (IEMA) Guidelines for Environmental Assessment of Traffic and Movement (referred to as 'IEMA Guidelines') suggests that the study area for the assessment of environmental effects arising from a traffic and transport perspective should consider highway links which fall within two rules, as stated below:
- rule 1: Include in the EIA highway links where traffic flows will increase by more than 30 % (or the number of Heavy Goods Vehicles (HGV) will increase by more than 30 %); and
  - rule 2: Include in the EIA any other specifically sensitive area where traffic flows

<sup>15</sup> Institute of Environmental Management and Assessment Guidelines, July 2023. Environmental Assessment of Traffic and Movement



will increase by 10 % or more.

7.3.5 The 30 % threshold of Rule 1 is based upon research and experience, with less than a 30 % increase in traffic flow generally considered to result in imperceptible changes in the environmental effects of traffic and transport. At a simple level, the guidance considers that projected changes in total traffic flow of less than 10 % creates no discernible environmental effects, hence the threshold of Rule 2.

7.3.6 The study area for the assessment within this Chapter is set out in Table 7.2 below.

**Table 7.2: Highway study area**

Link ID	Road
1	Station Road North
2	Station Road South
3	Wood Road
4	B585
5	Ellistown Terrace Road
6	Victoria Road
7	West Lane
8	B585 - Bagworth Road
9	Bagworth Road
10	B582 - Grange Road
11	A447 - Ibstock Road North
12	A447 - Ibstock Road South
13	A447 - Hinckley Road
14	B585 - West Lane
15	Beveridge Lane
16	B585 - Beveridge Lane
17	A511 - Bardon Road West
18	A511 - Shaw Lane
19	Regs Way
20	A511 - Bardon Road North
21	B591
22	A511 - Little Shaw Lane
23	M1 North Slips
24	A50
25	M1 South Slips
26	Whitwick Road Northwest
27	B591 Northeast



Link ID	Road
28	Whitwick Road Southeast

#### Construction

- 7.3.7 For the assessment, these effects will be taken to be those for which the source begins and ends during the construction of the Proposed Development, as set out in Chapter 4. The assumed assessment period for construction is Q4 2025 to Q4 2026.

#### Operation and Maintenance

- 7.3.8 For the assessment, these are the effects that begin once the Proposed Development is fully operational and includes the effects of the physical presence of the infrastructure, its operation, use and maintenance, including the permanent change in land use.
- 7.3.9 The assessment of operational effects will be the first full 12 months of operation. The Proposed Development should become operational in Q1 2027, therefore the assessment year for operation is 2027.

#### Duration of Effects

- 7.3.10 Timescales associated with these effects, regardless of phase are as follows unless defined differently in your relevant methodology:
- short- term – endures for up to 12 months after construction;
  - medium-term – endures for 1-5 years;
  - long-term – endures for 5-15 years; and
  - permanent effects – endures for more than 15 years and/or effects which cannot be reversed.

#### **Assessment Methodology**

- 7.3.11 The following likely significance of effects (Table 7.3) and sensitive receptors are considered within this Chapter.

**Table 7.3: Likely significant effects**

Likely Significance Effect	Sensitive Receptors	Applicable Stage
Severance and Increases in Fear and Intimidation	Pedestrian and cyclists users of the local road network	Construction and Operation
Pedestrian Amenity	Pedestrian and cyclists users of the local road network	Construction and Operation
Pedestrian Delay	Pedestrian and cyclists users of the local road network	Construction and Operation
Increase in Driver Delay	Motorised Users	Construction and Operation

- 7.3.12 The assessment of (direct) environmental effects arising from the Proposed Development, as a result of construction and operational traffic generated by the Proposed Development will be undertaken in line with IEMA Guidelines for the assessment of environmental effects arising from road traffic, specifically severance and increase in fear and intimidation,



pedestrian amenity, pedestrian delay, and increases in driver delay. The definition of each of the direct effects, as set out within IEMA Guidelines is set out in Table 7.4 below.

**Table 7.4: Environmental effect**

Environmental Effect	Definition of Effect
Severance and increase in fear and intimidation	The perceived division that can occur within a community when it becomes separated by a major traffic artery; or a complex series of factors that separate people from places and other places (i.e. may result from the difficulty of crossing a heavily traffic road; physical barrier created by the road itself; or relate to quite minor flows if they impede pedestrian access to essential facilities).  Increases in fear and intimidation relates to the ability for pedestrians to cross roads using their own judgement taking into account approach speed and type of traffic. It also accounts for proximity of passing traffic to pedestrians and cyclists travelling alongside the edge of the road.
Pedestrian amenity	The relative pleasantness of a journey being undertaken by a pedestrian and cyclists and how this can be influenced by changes in traffic flows/composition and a number of other factors.
Pedestrian delay	The reduced ability of pedestrians and cyclists trying to cross a road resulting in an increase in overall journey time, as a result of additional vehicular trips associated with the Proposed Development.
Driver delay	The perceived increase in time spent on a journey or at junctions as a result of additional vehicular trips associated with the Proposed Development.

- 7.3.13 In line with the IEMA Guidance, in order to predict the operational stage effects of the Proposed Development, anticipated traffic flows/composition identified through the Transport Assessment (TA) have been used to inform the assessment within this Chapter (see Appendix 7.1; Volume 3).
- 7.3.14 As set out within the TA, operational traffic flows arising from the Proposed Development have been determined from information provided by Pall-Ex on their future traffic generation.
- 7.3.15 The distribution of development lights and heavies has been assigned to the local highway network using the origins-destination tool in ArcGIS software based on car and truck driver journey time. The distribution for lights has been informed by existing staff postcodes, and for HGV's this has been informed by postcodes for all existing depot locations.
- 7.3.16 A future year assessment of 2030, which is five years following submission of the planning application has been undertaken in the TA and this includes the traffic flows associated with the Aldi National Distribution Centre which is considered as committed development.

#### **Assessment of Significance**

- 7.3.17 The assessment of likely significant environmental effects as a result of the Proposed Development has taken into account the construction and operational stages.

#### **Determining the Sensitivity of Receptor**

- 7.3.18 Within the IEMA Guidance there is no specific definition for determining sensitivity of receptors, leaving much of the determination down to the specific assessor. On this basis, for the purposes of this assessment, sensitivity of pedestrians/cyclists has been determined



through the application of professional judgement and an understanding of the effect in question and those parties that may be affected, based on the land uses or 'resources' that are adjacent to the road links where traffic changes are expected to occur.

7.3.19 Sensitivity criteria utilised within this assessment is set out in Table 7.5 below.

**Table 7.5: Sensitivity Criteria – Non-motorised road users**

Sensitivity	Definitions
High	Road links near to hospitals, schools, colleges, playground and/or retirement homes.
Medium	Road links at congested junctions or near to shops/business, pedestrian/cyclists' infrastructure, areas of ecological/nature conservation value, residential properties located close to a highways/carriageway.
Low	Road links near to sites of tourist/visitor attractions, places of worships, residential areas set back from a highway.
Negligible	Road links located way from affected highways link.

7.3.20 With respect to driver delay, as identified earlier there is no defined sensitivity criteria within the IEMA Guidance for non-motorised users and professional judgement has therefore been applied.

#### Determining the Magnitude of Change

7.3.21 The magnitude of change has been considered as the change experienced from the current baseline conditions at the sensitive receptor and has been considered on a scale of high, medium, small or negligible.

7.3.22 Similar to determining sensitivity, the IEMA Guidelines does not provide prescriptive criteria for the determination of magnitude of change for all effects, placing an onus on the application of professional judgement and an understanding of the current baseline situation. Nonetheless, for a number of the effects, the guidance does suggest some key 'criteria' that can help in reaching a conclusion of magnitude of change.

7.3.23 As such, the criteria and key considerations utilised within the assessment for each effect is set out below.

#### **Severance and Increase in Fear and Intimidation**

7.3.24 The IEMA Guidelines sets out a number of factors that need to be considered when determining severance, including road width, traffic flow and composition, traffic speeds, the availability of crossing facilities and the number of movements that are likely to cross the affected route.

7.3.25 The criteria used in reaching a conclusion on magnitude of change for severance and increases in fear and intimidation is set out in Table 7.6 below. As there are multiple factors taken into consideration, a greater focus may be placed on one factor than another, based on professional judgement and an understanding of the existing baseline and receptors.





Table 7.6: Severance and increase in fear and intimidation

Sensitivity	Typical Descriptors
High	A substantial change in traffic flows (taken as $\geq 90$ % change) occurring as a result of additional/removal of traffic or redistributed traffic.
	Noteworthy change in traffic speeds or delay (more than 60 seconds).
	Considerable change in road widths resulting in loss/creation of infrastructure for non-motorised users.
	Loss/creation (or enhancement) of crossing infrastructure resulting in greater difficulty/improvement in crossing ability for non-motorised users.
Medium	A notable change in traffic flows (taken as 31 – 60 % change) occurring as a result of additional/removal of traffic or redistributed traffic.
	Modest change in traffic speeds or delay (40-60 seconds).
	Partial change in road widths resulting in loss/creation of infrastructure for non-motorised users.
Low	A partial change in traffic flows (taken as 10 – 30 % change) occurring as a result of additional/removal of traffic or redistributed traffic.
	Limited change in traffic speeds or delay (30-40 seconds).
	Limited changes to existing road widths resulting in loss/creation of infrastructure for non-motorised users.
	No changes to crossing infrastructure.
Negligible	Nominal change in traffic flows (taken as $\leq 10$ % change) occurring as a result of additional/removal of traffic or redistributed traffic.
	No change in traffic speeds or delay (less than 30 seconds).
	No change to existing road widths.
	No changes to crossing infrastructure.

### Pedestrian Amenity

- 7.3.26 Pedestrian amenity relates to the relative pleasantness of a journey, and is affected by traffic flow, traffic composition and pavement width/separation of pedestrians from general traffic. The IEMA Guidelines<sup>16</sup> references guidance contained within the Manual for Environment Appraisal (MEA), which suggests that *“a tentative threshold for judging the significance of changes in pedestrian amenity would be where the traffic flow (or its lorry component) is halved or doubled”*.
- 7.3.27 The magnitude of the change on a highway link and its associated sensitive receptors is addressed as set out in Table 7.7. The impact can be adverse or beneficial in its magnitude of change, which is determined based upon of the application of relevant guidance and professional judgement.

<sup>16</sup> Institute of Environmental Assessment (IEA) (1993). Guidelines for the Environmental Assessment of Road Traffic.



Table 7.7: Pedestrian amenity

Sensitivity	Typical Descriptors
High	Traffic volumes (total vehicles or HGVs) increase by more than 150 %, or decrease by more than 100 %;
	Major changes to footway widths and/or provision of new dedicated infrastructure for pedestrians and cyclists; and/or
	Major change to amenity features such as landscaping and public realm.
Medium	Traffic volumes (total vehicles or HGVs) increase by 125-149 %, or decrease by 75-99 %;
	Considerable changes to footway widths and improvement of existing infrastructure for pedestrians and cyclists; and/or
	Considerable change to amenity features such as landscaping and public realm
Low	Traffic volumes (total vehicles or HGVs) increase by 100-124 % or decrease by 50-74 %;
	Minor, localised changes to footway widths, with no change to provision of dedicated infrastructure for pedestrians and cyclists; and/or
	Minor, localised changes to amenity features such as landscaping and public realm.
Negligible	Traffic volumes (total vehicles or HGVs) do not increase by more than 100 %, or decrease by more than 50 %;
	No change to footway widths or dedicated infrastructure for pedestrians and cyclists; and/or
	No change to amenity features such as landscaping and public realm.

### Pedestrian Delay

- 7.3.28 Increased traffic flows can result in pedestrian delay for a particular walking journey where the ability to cross roads is affected. This, therefore, could affect an individual's desire to make a particular walking journey. Increases in the volume and speed or changes in the composition of traffic are most likely to result in pedestrian delay, with the level of severity dependent on the general level of pedestrian activity and the physical condition of crossing points.
- 7.3.29 The determination of what constitutes a material impact on pedestrian delay is generally left to the professional judgement of the assessor and the knowledge of local factors and conditions. However, the IEMA Guidelines suggest *"a lower threshold of 10 seconds delay and an upper threshold of 40 seconds delay, for a link with no crossing facilities"*. It further advises that the lower threshold equates to a two-way flow of approximately 1,400 vehicles per hour on links with insufficient or no pedestrian facilities at desire lines and links subject to pedestrian footfall.
- 7.3.30 With the above factors in mind, a professional judgement has been undertaken to pedestrian delay based on traffic flows and operation of junctions.

### Driver Delay

- 7.3.31 A delay to drivers generally occurs at junctions where opposing vehicle manoeuvres are undertaken, with vehicles having to give or receive priority depending on the type of junction



arrangement. The IEMA Guidelines states that computer modelling programs can be used to assess the changes in driver delay on the network as a result of a development. Although the Guidelines do not state specific thresholds to calculate the magnitude of the change, they do advise that delays are only likely to be significant when the traffic on the network surrounding a development is already at, or close to, the capacity of the system.

- 7.3.32 A delay to drivers is considered for highway links that are demonstrating a low, medium or high adverse change against the severance indicator. This indicator has been chosen because it represents an increase in the flow of traffic on a highway link as a result of the Proposed Development. It is therefore in these locations that driver delay is most likely to be affected.

#### Significance Scale of Effect Criteria

- 7.3.33 The level of effect has been informed by the magnitude of change due to the proposed development and the evaluation of the sensitivity of the affected receptor. The significance matrix is set out in Table 7.8 below.

**Table 7.8: Significance matrix**

Magnitude of change	Sensitivity of receptor				
		High	Medium	Low	Negligible
	High	Major	Major	Moderate	Negligible
	Medium	Major	Moderate	Minor to Moderate	Negligible
	Low	Moderate	Minor to Moderate	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

- 7.3.34 The following terms have been used to define the level of the effect identified and these can be 'beneficial' or 'adverse':
- Major effect: where the Proposed Development is likely to cause a considerable change from the baseline conditions and the receptor has limited adaptability, tolerance or recoverability or is of the highest sensitivity;
  - Moderate effect: where the Proposed Development is likely to cause either a considerable change from the baseline conditions at a receptor which has a degree of adaptability, tolerance or recoverability or a less than considerable change at a receptor that has limited adaptability, tolerance or recoverability;
  - Minor effect: where the Proposed Development is likely to cause a small, but noticeable change from the baseline conditions on a receptor which has limited adaptability, tolerance or recoverability or is of the highest sensitivity; or where the Proposed Development is likely to cause a considerable change from the baseline conditions at a receptor which can adapt, is tolerant of the change or/and can recover from the change; and
  - Negligible: where the Proposed Development is unlikely to cause a noticeable change at a receptor, despite its level of sensitivity or there is a considerable change at a receptor which is not considered sensitive to a change.

#### **Assumptions and Limitations**

- 7.3.35 Key assumptions relate to the forecast traffic generation and distribution of the Proposed



Development:

- derivation of trip generation rates which are based on data provided by the existing Pall-Ex operation and a number of different surveys/databases (TRICS);
- distribution based on post code data and routing taking into account peak hour congestion;
- the assessment relies on available data in terms of traffic surveys, future forecasts and best endeavours have been made to ensure that the data is accurate and up to date and agreed with stakeholders; and
- the year of opening and future years will include known committed development informed by publicly available information regarding forecast traffic movements.

## 7.4 Baseline Conditions

### Site Context

#### Local Highway Network

- 7.4.1 Station Road is a single carriageway and subject to a 40 mph speed limit which decreases to 30 mph south of the Bagworth village sign. The road routes in a north-west to south direction linking to the B585 Ellistown Terrace Road to the north-west at a 3-arm roundabout and Barlestone Road and Main Street to the south at a priority junction.
- 7.4.2 To the northeast of the site, the B585 connects to the A4511 Barton Road and A4511 Shaw Lane. The A4511 is a principal road and provides connections to Junction 22 of the M1 and the A50 to north-east of the site and the A42 (Ashby de la Zouch) to the north-west of the site.
- 7.4.3 A summary of the 2024 base 24-hour flows (total vehicles and HGV %) and 18-hour flows (total vehicles and HGV %) for the 28 highway link roads is summarised in Table 7.9 below.

**Table 7.9: 24-hour and 18-hour flows on key road links in proximity to the Site**

Link ID	Road	2024 Baseline		2024 Baseline	
		24-Hour AADT Flow	24-Hour AADT HGVs	18-Hour AAWT Flow	18-Hour AAWT HGVs
1	Station Road North	4079	31	3979	32
2	Station Road South	4079	31	3979	32
3	Wood Road	5683	325	5820	337
4	B585	9472	542	9804	567
5	Ellistown Terrace Road	3823	443	3957	459
6	Victoria Road	9020	1383	9337	1432
7	West Lane	7576	810	7600	755
8	B585 - Bagworth Road	4290	225	4441	233
9	Bagworth Road	4762	127	4929	132



Link ID	Road	2024 Baseline		2024 Baseline	
		24-Hour AADT Flow	24-Hour AADT HGVs	18-Hour AAWT Flow	18-Hour AAWT HGVs
10	B582 - Grange Road	3939	255	4077	264
11	A447 - Ibstock Road North	15949	569	16509	589
12	A447 - Ibstock Road South	10947	599	11331	620
13	A447 - Hinckley Road	10745	326	11105	337
14	B585 - West Lane	9568	1023	9904	984
15	Beveridge Lane	18519	2427	19169	2512
16	B585 - Beveridge Lane	26661	4141	27597	4286
17	A511 - Bardon Road West	24804	3385	25662	3502
18	A511 - Shaw Lane	46304	5676	47929	5875
19	Regs Way	6657	1048	6890	1085
20	A511 - Bardon Road North	24942	3579	25817	3705
21	B591	8296	404	8588	419
22	A511 - Little Shaw Lane	40330	6787	41737	7024
23	M1 North Slips	115941	18333	120011	18976
24	A50	40110	3911	41840	4080
25	M1 South Slips	105471	16412	109173	16988
26	Whitwick Road Northwest	10470	320	10837	282
27	B591 Northeast	9364	260	9677	269
28	Whitwick Road Southeast	8578	152	8878	157

#### Pedestrian and Cycle Access

- 7.4.4 A footway is provided on the eastern side of Station Road and expands to footways on both sides of Station Road from residential property no. 367. The footways provide access to Bagworth and a Nisa Local convenience store.
- 7.4.5 There is a network of Public Right of Ways (PROWs) accessed off Station Road, south of the existing Pall-Ex unit as seen in Figure 7.1 (Volume 2).
- 7.4.6 National Cycle Route (NCR) 63 extends along Station Road and is generally an on-road cycle route with sections off-road between Measham and Ratby. NCR 63 provides access to Bagworth and Leicester.

#### **Public Transport Provision**

##### Bus

- 7.4.7 The nearest bus stops are located approximately 350 m north-west of the Site access on Ellistown Terrace Road. The northbound bus stop has a flag and pole arrangement and bus



shelter with seating. The southbound bus stop has a flag and pole arrangement. The stops are served by bus service 28 which routes between Leicester and Coalville. This service operates hourly Monday to Saturday.

7.4.8 The bus service 28 first service is 06:34 h and last service is 17:24 h to Leicester from the southbound bus stop.

7.4.9 The bus service 28 first service is 06:54 h and last service is 19:06 h to Coalville from the northbound bus stop.

#### Train

7.4.10 The nearest rail station is Leicester and Hinkley approximately 19 km south-east and south of the Site respectively. Leicester Rail Station provides frequent services to London St Pancras, Birmingham New Street, Nottingham and Sheffield. Hinkley Rail Station provides frequent services to Birmingham New Street and Nuneaton.

#### **Future Baseline**

7.4.11 With respect to the local road network and infrastructure there are no known notable proposed changes to the road network that would result in a notable change to the local road network or its use.

#### **Baseline Survey Information**

7.4.12 Automatic traffic counts were undertaken from Saturday 18<sup>th</sup> May to Friday 24<sup>th</sup> May 2024 on West Lane, Station Road and Wood Road.

## **7.5 Assessment of Effects**

#### **Construction**

7.5.1 The traffic movements generated by the Proposed Development for the construction stage have been estimated based on information provided by the Applicant and knowledge of other similar schemes.

7.5.2 The types of vehicles and number of vehicles that will deliver construction material to the site will vary depending on phasing and the materials collected or delivered. Typically, the final rate of project completion reflects many competing factors, such as access to the development, completing the sales of buildings and availability of labour and materials, as well as maintaining a quality environment during the early phases of a project during these construction phases.

7.5.3 The site is anticipated to generate around 170 daily car and HGV movements during construction.

7.5.4 It is anticipated that the majority of construction traffic would route north along Station Road to the B585, and then along the A511 towards Junction 22 of the M1.

#### Severance and Increase in Fear and Intimidation

7.5.5 Given the low levels of daily flows generated by construction traffic, no significant severance effect will result. The sensitivity of local community, residents and pedestrians and cyclist users of the local road network is considered to be negligible; the magnitude of impact is



considered to be negligible, and the significance of effect is negligible. Therefore, there is likely to be a direct, temporary, negligible adverse effect. The effect is considered to be not significant.

#### Pedestrian Amenity

- 7.5.6 The levels of construction traffic are relatively low, the only potential area of impact on pedestrian amenity would be on Station Road north of the site access and the B585. Due to the low increase in traffic the magnitude of impact is considered to be negligible.
- 7.5.7 The sensitivity of the pedestrian users of the local road network is considered to be negligible; the magnitude of impact is considered to be negligible, and the significance of effect is negligible. Therefore, there is likely to be a direct, temporary, negligible adverse effect. The effect is considered to be not significant.

#### Pedestrian Delay

- 7.5.8 The levels of construction traffic are relatively low, the only potential area of impact on pedestrian amenity would be on Station Road north of the site access and the B585. Due to the low increase in traffic the magnitude of impact is considered to be negligible.
- 7.5.9 The sensitivity of the pedestrian users of the local road network is considered to be negligible; the magnitude of impact is considered to be negligible, and the significance of effect is negligible. Therefore, there is likely to be a direct, temporary, negligible adverse effect. The effect is considered to be not significant.

#### Driver Delay

- 7.5.10 Given the low levels of daily flows generated by construction traffic, impacts on driver delay will be minimal. The sensitivity of motorised users is considered to be negligible; the magnitude of impact is considered to be negligible, and the significance of effect is negligible. Therefore, there is likely to be a direct, temporary, negligible adverse effect. The effect is considered to be not significant.

### **Operation**

- 7.5.11 The peak hour vehicle development movements are summarised in Table 7.10.

**Table 7.10: Operational development flows**

	Staff	HGVs
24 Hour Flow	1090	1878

- 7.5.12 The generation and assignment of peak hour traffic generated by the Proposed Development has been factored up to 24-hour AADT flows onto the 28 highway links within the study area. A future year assessment of 2030 baseline + Committed Development and 2030 baseline + Committed Development + Development is shown in Table 7.11.



Table 7.11: Future year assessment of 2030 baseline + committed development and 2030 baseline + committed development + development

Link ID	Road	2030 Baseline		2030 Baseline + Committed Development		2030 Baseline + Committed Development + Development		Development % Impact		2030 Base + Com Dev Vs With Development % Impact	
		24-Hour AADT Flow	24-Hour AADT HGVs	24-Hour AADT Flow	24-Hour AADT HGVs	24-Hour AADT Flow	24-Hour AADT HGVs	24-Hour AADT Flow % Impact	24-Hour AADT HGVs % Impact	Meet IEMA Rule 1	Meet IEMA Rule 2
1	Station Road North	4079	31	4079	31	6946	1909	70 %	6022 %	✓	x
2	Station Road South	4079	31	4079	31	4181	31	2 %	0 %	x	x
3	Wood Road	5683	325	8479	2279	9120	2623	8 %	15 %	x	x
4	B585	9472	542	12268	2484	14494	4019	18 %	62 %	✓	x
5	Ellistown Terrace Road	3823	443	4000	460	4145	460	4 %	0 %	x	x
6	Victoria Road	9020	1383	11586	2979	13666	4514	18 %	52 %	✓	x
7	B585 - West Lane	7576	810	10142	2406	12222	3941	21 %	64 %	✓	x
8	B585 - Bagworth Road	4290	225	4290	225	4316	225	1 %	0 %	x	x
9	Bagworth Road	4762	127	4762	127	4869	127	2 %	0 %	x	x
10	B582 - Grange Road	3939	255	3939	255	4447	598	13 %	135 %	✓	x
11	A447 - Ibstock Road North	15949	569	15949	569	16243	698	2 %	23 %	x	x
12	A447 - Ibstock Road South	10947	599	10947	599	11162	814	2 %	36 %	✓	x
13	A447 - Hinckley Road	10745	326	10745	326	10942	455	2 %	39 %	✓	x





Link ID	Road	2030 Baseline		2030 Baseline + Committed Development		2030 Baseline + Committed Development + Development		Development % Impact		2030 Base + Com Dev Vs With Development % Impact	
		24-Hour AADT Flow	24-Hour AADT HGVs	24-Hour AADT Flow	24-Hour AADT HGVs	24-Hour AADT Flow	24-Hour AADT HGVs	24-Hour AADT Flow % Impact	24-Hour AADT HGVs % Impact	Meet IEMA Rule 1	Meet IEMA Rule 2
14	West Lane	9568	1023	9568	1023	11648	2558	22 %	150 %	✓	x
15	Beveridge Lane	18519	2427	18519	2427	18549	2427	0 %	0 %	x	x
16	B585 - Beveridge Lane	26661	4141	29103	5705	31154	7239	7 %	27 %	x	x
17	A511 - Bardon Road West	24804	3385	25078	3658	25603	4173	2 %	14 %	x	x
18	A511 - Shaw Lane	46304	5676	48524	7327	50049	8346	3 %	14 %	x	x
19	Regs Way	6657	1048	6657	1048	6686	1048	0 %	0 %	x	x
20	A511 - Bardon Road North	24942	3579	24942	3579	25496	4094	2 %	14 %	x	x
21	B591	8296	404	8457	404	8506	404	1 %	0 %	x	x
22	A511 - Little Shaw Lane	40330	6787	42388	8438	43865	9458	3 %	12 %	x	x
23	M1 North Slips	115941	18333	117004	19194	117490	19534	0 %	2 %	x	x
24	A50	40110	3911	40245	3976	40434	4048	0 %	2 %	x	x
25	M1 South Slips	105471	16412	106333	17136	107136	17744	1 %	4 %	x	x
26	Whitwick Road Northwest	10470	320	10470	320	10480	320	0 %	0 %	x	x



Link ID	Road	2030 Baseline		2030 Baseline + Committed Development		2030 Baseline + Committed Development + Development		Development % Impact		2030 Base + Com Dev Vs With Development % Impact	
		24-Hour AADT Flow	24-Hour AADT HGVs	24-Hour AADT Flow	24-Hour AADT HGVs	24-Hour AADT Flow	24-Hour AADT HGVs	24-Hour AADT Flow % Impact	24-Hour AADT HGVs % Impact	Meet IEMA Rule 1	Meet IEMA Rule 2
27	B591 Northeast	9364	260	9364	260	9402	260	0 %	0 %	x	x
28	Whitwick Road Southeast	8578	152	8578	152	8578	152	0 %	0 %	x	x



- 7.5.13 Table 7.11 above shows that there are eight highway links in the 2030 Baseline + Committed Development vs 2030 Baseline + Committed Development + Development where flows are predicted to increase by more than 30% (Rule 1).
- 7.5.14 There is no highway link where flows are predicted to increase by more than 10% (Rule 2), within a specifically sensitive area and therefore no further assessment has been undertaken.
- 7.5.15 The following highway road links have therefore been taken forward for further assessment with respect the effects of the Proposed Development in relation to severance and increase in fear and intimidation, pedestrian amenity, pedestrian delay and driver delay.
- Station Road North;
  - B585;
  - Victoria Road;
  - B585 - West Lane;
  - B582 - Grange Road;
  - A447 - Ibstock Road South;
  - A447 - Hinckley Road; and
  - West Lane.

*Severance and increase in fear and intimidation*

- 7.5.16 The impact of the Proposed Development in terms of severance and increase in fear and intimidation against Table 7.6 is set out in Table 7.12 below.

**Table 7.12: Impact on severance and increase in fear and intimidation**

Road	2030 Base + Com Dev Vs with Development
Station Road North	High
B585	High
Victoria Road	Medium
West Lane	High
B582 - Grange Road	High
A447 - Ibstock Road South	Medium
A447 - Hinckley Road	Medium
B585 - West Lane	High

- 7.5.17 There are five highway links where there would be a 'high' sensitivity and the remaining highway links would be 'medium' sensitivity.
- 7.5.18 The sensitivity of local community, residents and pedestrians and cyclist users of the local road network is considered to be low; the magnitude of impact is considered to be high and therefore the significance of effect is moderate. Therefore, there is likely to be a direct, permanent, long-term, moderate adverse effect. The effect is considered to be not significant under the EIA Regulations.



### *Pedestrian Amenity*

- 7.5.19 The impact of the Proposed Development in terms of pedestrian amenity against Table 7.7 is set out in Table 7.13 below.

**Table 7.13: Impact on pedestrian amenity**

Road	2030 Base + Com Dev Vs with Development
Station Road North	High
B585	Negligible
Victoria Road	Negligible
West Lane	Negligible
B582 - Grange Road	High
A447 - Ibstock Road South	Negligible
A447 - Hinckley Road	Negligible
B585 - West Lane	High

- 7.5.20 The sensitivity of local community, residents and pedestrians and cyclist users of the local road network is considered to be negligible; the magnitude of impact is considered to be negligible and therefore the significance of effect is negligible. Therefore, there is likely to be a direct, permanent, long-term, negligible adverse effect. The effect is considered to be not significant.

### *Pedestrian Delay*

- 7.5.21 Traffic flows along the eight highway links will increase as a result of the Proposed Development and would affect a pedestrian walking journey. There are footways on Station Road North, the B585 (north of Wood Road), Victoria Road, and the A447 Hinckley Road. There are no footways on Grange Road, the A447 Ibstock Road and West Lane. There is no continuous footway along the B585 West Lane (east of Victoria Road).
- 7.5.22 Pedestrian activity in the vicinity of the site along Station Road North and the B585 (north of Wood Road) is likely to be generally low. There is a footpath on Victoria Road but where Victoria Road connects onto the B585 West Lane, there is no continuous footpath along the B585 West Lane and therefore this will likely reduce pedestrian activity in this location.
- 7.5.23 The Proposed Development will include a new footpath connection across the west side of the Station Road to run to the northwest for c. 60 m past the site access. This will link to a new pedestrian crossing point with a central refuge island, in addition to an on-road cycle connection point.
- 7.5.24 The sensitivity of local community, residents and pedestrians and cyclist users of the local road network is considered to be negligible; the magnitude of impact is considered to be negligible and therefore the significance of effect is negligible. Therefore, there is likely to be a direct, permanent, long-term, negligible adverse effect. The effect is considered to be not significant.

### *Driver Delay*

- 7.5.25 Traffic modelling has been undertaken for the junctions in the study area to understand the



implications of the proposed development on traffic flows and driver delay. Detailed modelling results can be found in the Transport Assessment (Appendix 7.1; Volume 3) and the findings are summarised in Table 7.14.

**Table 7.14: Impact on driver delay**

Junction	2030 Base + Com Dev Vs with Development
Junction 1: Station Road/Wood Road (B585)/Ellistown Terrace Road (B585) roundabout	Negligible
Junction 2: Ellistown Terrace Road/Victoria Road (B585) signalised junction	Negligible
Junction 3: Wood Road (B585)/Bagworth Road (B585)/Bagworth Road/Grange Road (B582) staggered crossroads	Negligible
Junction 4: Grange Road (B582)/Ibstock Road (A447) priority junction	Negligible
Junction 5: Beveridge Lane (B585)/Bardon Road (A511)/Shaw Lane (A511) roundabout (Stardust roundabout)	Negligible
Junction 6: Shaw Lane (A511)/Little Shaw Lane (A511)/Copt Oak Road (B591)/Stanton Lane roundabout (Flying Horse roundabout)	Negligible
Junction 7: M1 Junction 22	Negligible
Junction 8: Bardon Road (A511)/Regs Way/Grange Road/Bardon Road (A511) roundabout (Birch Tree roundabout)	Negligible
Junction 9: West Lane (B585)/Beveridge Lane/Walker Road/B585	Negligible
Junction 10: West Lane (B585)/Interlink Way/B585 Access Road	Negligible
Junction 11: Victoria Rd/Access Rd(N)/West Ln(B585)/Unnamed/Access Road (S)	Negligible

7.5.26 The results of the junction modelling assessment in the Transport Assessment have demonstrated that the junction assessed have a less than 30 second increase in delay and is therefore considered negligible in accordance with Table 7.7.

7.5.27 The sensitivity of motorised users is considered to be negligible; the magnitude of impact is considered to be negligible and therefore the significance of effect is negligible. Therefore, there is likely to be a direct, permanent, long-term, negligible adverse effect. The effect is considered to be not significant.

## 7.6 Mitigation, Enhancement and Residual Effects

7.6.1 This Section refers to the types of mitigation used as part of the Proposed Development, as defined in Chapter 2, and how they apply to the assessment of Traffic and Transport.

7.6.2 The Applicant has sought to identify and incorporate suitable measures and mitigation for potentially significant adverse effects, as well as maximising beneficial effects where possible. This has been achieved through an iterative process including consultation and engagement with consultees and through the EIA process.

7.6.3 Some primary and tertiary measures are embedded in the design of the Proposed Development, including the location and size of infrastructure, as defined in the Work Plans.



Other measures are either secondary, termed tertiary, such as control and management plans, or measures integrated into legal requirements *via* environmental permits and consents.

- 7.6.4 The following sets out the embedded measures (primary), legal requirements (tertiary) and additional measures (secondary) relevant to the assessment of Traffic and Transport.

### **Construction**

#### Primary (Embedded) and Tertiary Measures

- 7.6.5 Given the nature of the construction stage, it is considered that there are no embedded mitigation measures which need to be accounted for within this assessment.

#### *Secondary (Additional) mitigation*

- 7.6.6 An Outline CEMP (Appendix 4.1; Volume 3) has been prepared and submitted as part of the application and includes the following measures including:
- the proposed routing of construction traffic and measures to enforce such routing (i.e. signage);
  - best practice measures where construction traffic is expected to be within proximity to pedestrian footways;
  - measures to ensure construction traffic does not give rise to likely accidents or safety incidents (i.e. defined entrance and exit procedure, appropriate signage or delineated pedestrian zones if applicable); and
  - procedures for deliveries (i.e. timing of deliveries to avoid peak hours) and any restrictions in line with best practice measures.
- 7.6.7 The Outline CEMP has been submitted for approval and its provision and enforcement will be secured through a Detailed CEMP by an appropriately worded planning condition on any permission.

#### Enhancements

- 7.6.8 No additional enhancements.

#### Residual

- 7.6.9 In the absence of secondary mitigation, the residual effect is that same as that reported in the pre-mitigation scenario.

### **Operation**

#### Primary (Embedded) and Tertiary Measures

- 7.6.10 Table 7.15 sets out the primary and tertiary (embedded) mitigation measures that will be adopted during operation of the Proposed Development.



Table 7.15: Primary and tertiary mitigation measures adopted as part of the Proposed Development

Mitigation measure	Type	Applied to	Justification
New footway/cycleway at site access	Primary	Pedestrians and cyclists	Enhancing pedestrian and cycle connectivity
New pedestrian crossing point with a central refuge island	Primary	Pedestrians and cyclists	Enhancing pedestrian and cycle connectivity

*Secondary (Additional) mitigation*

7.6.11 In accordance with current Government Policy, a comprehensive Framework Travel Plan has been prepared for the Proposed Development (Appendix 7.2; Volume 3). Travel plans are management tools designed to minimise the adverse impact of travel and transport on the environment. Travel plans aim, through a set of mechanisms, targets and initiatives, to incorporate transport and other issues in a coordinated strategy.

7.6.12 In order to reach this target, the following measures will be implemented:

- travel information packs – designed to provide staff and visitors with information on sustainable travel;
- promoting car sharing - Staff will be encouraged to sign up to Warwickshire's car share website;
- travel information boards – placed in prominent areas in units providing up to date information on public transport services, green driving tips, car sharing information and walking and cycling links;
- provision of walking and cycling safety gear, and basic cycle maintenance equipment for each unit;
- cycle training for staff;
- cycle parking provision for each building; and
- electric charging bays.

7.6.13 The Travel Plan will be supported by a Travel Plan Co-ordinator who will oversee the management and monitoring of the Travel Plan, co-ordinate travel surveys, data collection and survey analysis, implement Travel Plan measures, and liaise with Leicestershire County Council. The Travel Plan will be secured *via* a Section 106 agreement.

Enhancements

7.6.14 No additional enhancements.

Residual

7.6.15 In the absence of secondary mitigation, the residual effect is that same as that reported in the pre-mitigation scenario.



## 7.7 Cumulative and In-Combination effects

### Cumulative Development

- 7.7.1 The cumulative effects of the proposed Aldi National Distribution Centre (planning application reference 20/00224/FUL) have been considered. The 2030 baseline + Committed Development scenario included traffic flows associated with the Aldi National Distribution Centre. TEMPro growth have been applied to the 2030 future baseline to account for wider committed development schemes in the area. Therefore, no significant cumulative effects are predicted.

### Inter-related Effects

- 7.7.2 This Traffic and Transport Chapter has an inter-relationship with the Air Quality, and Noise and Vibration chapters, as these chapters both consider traffic flows. The traffic flows set out above have been made available and these chapters have utilised these as part of their assessments. Therefore, these chapters are fully consistent with the above.

## 7.8 Statement of Significance

### Construction Phase

- 7.8.1 The assessment of the Traffic and Transport effects of the Proposed Development in terms of significance of effects on severance and increases in fear and intimidation, pedestrian amenity, pedestrian delay, and increase in driver delay during the construction phase is negligible (not significant).

### Operational Phase

- 7.8.2 The assessment of the Traffic and Transport effects of the Proposed Development in terms of significance of effects on pedestrian amenity, pedestrian delay and increase in driver delay during the operational phase is negligible (not significant). There would be a moderate adverse effect on severance and increase in fear and intimidation.

### Mitigation, Enhancement and Residual Effects

- 7.8.3 A summary of potential environmental effects, mitigation and monitoring is provided in Table 7.16. Table 7.16 summarises all mitigation in relation to Traffic and Transport, how these measures are secured, the party responsible for the implementation of the measure, when the measure would be delivered and any mechanisms to deliver the measure.





Table 7.16: Traffic and transport summary

Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Residual effect significance	Mitigation/ Enhancement Measures	Securing mechanism	Residual Effects
<b>Construction</b>											
Local community, residents and pedestrians and cyclist users of the local road network	Severance and increase in fear and intimidation	Short-term, Temporary	Negligible	Negligible	Local	Negligible	Negligible	Negligible	Construction Traffic Management Plan	Planning Condition	Negligible - Adverse
Pedestrian users of the local road network	Pedestrian Amenity	Short-term, Temporary	Negligible	Negligible	Local	Negligible	Negligible	Negligible	Construction Traffic Management Plan	Planning Condition	Negligible - Adverse
Pedestrian users of the local road network	Pedestrian Delay	Short-term, Temporary	Negligible	Negligible	Local	Negligible	Negligible	Negligible	Construction Traffic Management Plan	Planning Condition	Negligible - Adverse
Motorised users	Driver Delay	Short-term, Temporary	Negligible	Negligible	Local	Negligible	Negligible	Negligible	Construction Traffic Management Plan	Planning Condition	Negligible - Adverse



Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Residual effect significance	Mitigation/ Enhancement Measures	Securing mechanism	Residual Effects
<b>Operation</b>											
Local community, residents and pedestrians and cyclist users of the local road network	Severance and increase in fear and intimidation	Long-term, Permanent	Low	High	Local	Moderate	Moderate	Moderate	Travel Plan	Planning Condition/ S106	Moderate - Adverse
Pedestrian users of the local road network	Pedestrian Amenity	Long-term, Permanent	Negligible	Negligible	Local	Negligible	Negligible	Negligible	Travel Plan	Planning Condition/ S106	Negligible - Adverse
Pedestrian users of the local road network	Pedestrian Delay	Long-term, Permanent	Negligible	Negligible	Local	Negligible	Negligible	Negligible	Travel Plan	Planning Condition/ S106	Negligible - Adverse
Motorised users	Driver Delay	Long-term, Permanent	Negligible	Negligible	Local	Negligible	Negligible	Negligible	Travel Plan	Planning Condition/ S106	Negligible - Adverse
<b>Notes</b> Only enter a value where a sensitivity v magnitude effects has been used – otherwise 'Not Applicable' Enter either: International, European, United Kingdom, Regional, County, Borough/District or Local Enter either: Major/Moderate/Minor/Negligible AND state whether Beneficial or Adverse (unless negligible)											



## 8. Air Quality

### 8.1 Introduction

- 8.1.1 This Chapter of the ES presents the findings of EIA completed in relation to the construction and operational impacts of the Proposed Development on air quality.
- 8.1.2 This Chapter was undertaken by Air & Acoustic Consultants Limited (AAC). Competency details are provided in Appendix 1.2 (Volume 3).
- 8.1.3 This Chapter summarises information from supporting studies, technical reports and publicly available data which are included within Appendices 8.1 – 8.16, details of which are provided below:
- Appendix 8.1 (Volume 3) – Review of Legislative Background;
  - Appendix 8.2 (Volume 3) – IAQM (2024) Dust Risk Guidance;
  - Appendix 8.3 (Volume 3) – EPUK & IAQM (2017) Guidance;
  - Appendix 8.4 (Volume 3) – Traffic Data;
  - Appendix 8.5 (Volume 3) – Modelling Parameters;
  - Appendix 8.6 (Volume 3) – Dust Risk Assessment;
  - Appendix 8.7 (Volume 3) – Verification;
  - Appendix 8.8 (Volume 3) – Human Receptor Locations;
  - Appendix 8.9 (Volume 3) – Ecological Receptor Locations;
  - Appendix 8.10 (Volume 3) – Baseline Conditions;
  - Appendix 8.11 (Volume 3) – Proposed Development (Operational Phase) Impacts at Human Receptors (In Isolation);
  - Appendix 8.12 (Volume 3) – Proposed Development (Operational Phase) Impacts at Ecological Receptors (Development in Isolation);
  - Appendix 8.13 (Volume 3) – Construction Dust Mitigation Measures;
  - Appendix 8.14 (Volume 3) – Proposed Development (Construction Phase) Impacts at Human Receptors (Cumulative Impacts);
  - Appendix 8.15 (Volume 3) – Proposed Development (Operational Phase) Impacts at Human Receptors (Cumulative Impacts); and
  - Appendix 8.16 (Volume 3) – Proposed Development (Operational Phase) Impacts at Ecological Receptors (Cumulative Impacts).

### 8.2 Legislative and Planning Framework

#### Relevant Legislation

- 8.2.1 The principal legislative and planning context in relation to the assessment of the effects of the Proposed Development on air quality is presented below.



- The Air Quality Standards Regulations 2010 [2020]<sup>17</sup>;
- Air Quality Standards (amendment) Regulations 2016<sup>18</sup>;
- Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019<sup>19</sup>;
- Environment (Miscellaneous Amendments) (EU Exit) Regulations 2020 - Statutory Instrument No.1313<sup>20</sup>;
- The Environmental Targets (Fine Particulate Matter) (England) Regulations (2023)<sup>21</sup>;
- Directive 2008/50/EC on ambient air quality<sup>22</sup>;
- Environment Act 1995<sup>23</sup>;
- Environment Act 2021<sup>24</sup>;
- Clean Air Act 1993<sup>25</sup>;
- Environmental Protection Act 1990 – Statutory Nuisance<sup>26</sup>;
- European Commission Directive 92/43/EEC (1992)<sup>27</sup>; and
- The Conservation of Habitats and Species Regulations 2017, No. 1012<sup>28</sup>.

8.2.2 The above legislation is further set out in Appendix 8.1 (Volume 3) where deemed necessary.

### Relevant Planning Policy

#### Local Policy

- 8.2.3 Local planning policy of relevance to air quality and pertinent to the Proposed Development includes the Hinckley and Bosworth Local Plan. The Local Plan adopted for the period 2006 – 2026, is contained under the Local Development Framework: Core Strategy, although no policies in this document relate to air quality which would be considered pertinent to the Proposed Development. It is however noted that a new, draft local plan is under consultation at Hinckley and Bosworth Borough Council, which will cover the period 2020 – 2041.
- 8.2.4 There are a number of policies in the Draft Local Plan which make reference to air quality. Policy PMD03: *Preventing Pollution*, states:

<sup>17</sup> Statutory Instrument (2010), *The Air Quality Standards Regulations*, No. 1001.

<sup>18</sup> Statutory Instrument (2016), *The Air Quality Standards (Amendment) Regulations*, No. 1184.

<sup>19</sup> Statutory Instrument (2019), *Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations*.

<sup>20</sup> Statutory Instrument (2020), *Environment (Miscellaneous Amendments) (EU Exit) Regulations 2020*. No. 1313

<sup>21</sup> Statutory Instrument (2023), *The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023*. No 96.

<sup>22</sup> European Union (2008), *Directive on ambient air quality and cleaner Air for Europe*. Directive 2008/50/EC Official Journal, vol. 152, pp. 0001-0044

<sup>23</sup> Parliament of the United Kingdom (1995), *Environmental Act 1995*. Chapter 25.

<sup>24</sup> UK Public General Acts (2021), *Environmental Act 2021*, Chapter 30.

<sup>25</sup> UK Public General Acts (1993), *Clean Air Act 1993*, Chapter 11.

<sup>26</sup> UK Public General Acts (1990), *Environmental Protection Act 1990*, Chapter 43.

<sup>27</sup> European Commission (1992), *Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and wild fauna and flora*.

<sup>28</sup> Statutory Instrument (2017), *The Conservation of Habitats and Species Regulations*.



*“Adverse impacts from pollution will be prevented by ensuring that development proposals demonstrate that:*

*[...]*

*f) it will not adversely impact air quality*

*[...]”*

#### 8.2.5 Policy NAT01: Green Infrastructure, states:

*“Development proposals will be supported which contribute to the growth and enhancement of the Borough’s multi-functional green infrastructure network in line with the following requirements:*

*[...]*

*c) Proposals should ensure that green infrastructure is resilient to climate change; minimises the scheme’s environmental impact with respect to air, soil, light, noise, and water; and enhances the quality of air, soil and water*

*[...]”*

#### National Policy

#### 8.2.6 The NPPF (2024) is the National planning policy of relevance to air quality and pertinent to the Proposed Development. The relevant policies in the NPPF relating to air quality are set out further in Appendix 8.1 (Volume 3).

### 8.3 Assessment Approach

#### Consultation

#### 8.3.1 Consultation and engagement have informed the air quality assessment. Table 8.1 outlines engagement that has been undertaken to inform this assessment.

**Table 8.1: Key consultation information**

Consultee	Points raised	Response
Pre-app	<p>Hinkley and Bosworth Borough Council stated that air quality would need to be assessed and that the <i>“assessment should consider site preparation and construction and make recommendations for control and mitigation of impacts during this phase to be incorporated into the CEMP”</i>.</p> <p>National Highways commented that <i>“Adverse change to noise and air quality should be particularly considered, including in relation to compliance with the European air quality limit values and/or in local authority designated Air Quality Management Areas (AQMAs).”</i></p>	<p>These points were considered when submitting the EIA Scoping Opinion and therefore the relevant methodologies have been inherently considered when producing the ES.</p>



Consultee	Points raised	Response
EIA Scoping	The ES should take account of the risks of air pollution and how these can be managed or reduced. This should include taking account of any strategic solutions or SNAPs, which may be developed or implemented to mitigate the impacts on air quality.	The LPA are satisfied with the scope and methodology of the assessment of air quality disciplines. National Highways acknowledge and welcome that Air Quality Assessments shall be included as part of the ES.

### Methodology

8.3.2 Chapter 2 Assessment Methodology of the ES describes the general approach to the assessment. This Chapter of the report provides specific details of the air quality methodology applied to the assessment of the Proposed Development.

8.3.3 In addition to the legislation and national and local planning policies outlined in Chapter 8.2, this assessment has also been carried out in accordance with the following professional standards and guidance:

- National Planning Practice Guidance (2019)<sup>29</sup>;
- Air Quality Strategy for England<sup>30</sup>;
- WHO global air quality guidelines<sup>31</sup>;
- A Green Future: Our 25 Year Plan to Improve the Environment<sup>32</sup>;
- Clean Air Strategy (2019)<sup>33</sup>;
- Reducing emissions from road transport: Road to Zero Strategy<sup>34</sup>;
- Department for Environment, Food & Rural Affairs (2022). Local Air Quality Management: Technical Guidance (TG22)<sup>35</sup>;
- PM<sub>2.5</sub> Targets: Interim Planning Guidance<sup>36</sup> (2024);
- Institute of Air Quality Management (IAQM) (2024) Guidance on the assessment of dust from demolition and construction<sup>37</sup> ('IAQM (2024) Dust Risk Guidance') (as set out further in Appendix 8.2; Volume 3);
- Environmental Protection UK (EPUK) & IAQM (2017) Land-Use Planning &

<sup>29</sup> National Planning Practice Guidance web-based resource.

<sup>30</sup> Department for Environment, Food & Rural Affairs (2023). *Air Quality Strategy for England*.

<sup>31</sup> World Health Organization (2021). *WHO global air quality guidelines*.

<sup>32</sup> Department for Environment, Food & Rural Affairs (2018). *A Green Future: Our 25 Year Plan to Improve the Environment*.

<sup>33</sup> Department for Environment, Food & Rural Affairs (2019). *Clean Air Strategy 2019*.

<sup>34</sup> Department for Transport, Office for Low Emission vehicles and Office for Zero Emission Vehicles (2018). *Reducing emissions from road transport: Road to Zero Strategy*.

<sup>35</sup> Department for Environment, Food & Rural Affairs (2022). *Local Air Quality Management – Technical Guidance (22)*.

<sup>36</sup> Department for Environment, Food & Rural Affairs (2024), *PM<sub>2.5</sub> Targets: Interim Planning Guidance*.

<sup>37</sup> Institute of Air Quality Management (IAQM) (2024), *Guidance on the Assessment of Dust from Demolition and Construction (v2.2)*.



Development Control: Planning for Air Quality<sup>38</sup> ('EPUK & IAQM (2017) Guidance') (as set out further in Appendix 8.3, Volume 3);

- DMRB Guidance (LA 105) Air Quality (vertical barriers)<sup>39</sup>;
- Natural England (2018), Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations<sup>40</sup>; and
- IAQM (2020) A Guide to the Assessment of Air Quality Impacts on Designated Nature Conservation Sites<sup>41</sup>

### Study Area

8.3.4 The study area extends significantly beyond the Site boundary as follows.

#### Construction Phase

##### *Dust Risk Impacts*

8.3.5 The study area for the construction dust risk assessment includes the following receptors as set out in the IAQM (2024) Dust Risk Guidance:

- human receptors within 250 m of the Site boundary, and/or within 50 m of the routes used by construction vehicles on the local highway network and up to 250 m from Site entrances; and/or
- ecological receptors within 50 m of the Site boundary, or within 50 m of the route(s) used by construction vehicles on the public highway, up to 250 m from the Site entrance(s).

#### Construction and Operational Phase

##### *Traffic Impacts – Human Receptors*

8.3.6 The study area for the operational stage assessment includes any roads (provided by the project transport consultants) predicted to experience an increase in traffic trips exceeding the following criteria, as set out in the EPUK & IAQM (2017) Guidance:

- a change in flows outside of an AQMA of:
  - 500 Annual Average Daily Traffic (AADT) for light duty vehicles; and/or
  - 100 AADT for heavy duty vehicles.
- a change in within or adjacent to an AQMA of:
  - 100 AADT for light duty vehicles; and/or
  - 25 AADT for heavy duty vehicles.

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<sup>38</sup> Environmental Protection UK (EPUK) and IAQM (2017), *Land-use Planning & Development Control: Planning for Air Quality*.

<sup>39</sup> National Highways (2024), *Design Manual for Roads and Bridges (DMRB), LA 105. Air Quality (vertical barriers)*.

<sup>40</sup> Natural England (2018), *Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations*

<sup>41</sup> IAQM (2020), *A guide to the assessment of air quality impacts on designated nature conservation sites*.



#### *Traffic Impacts – Ecological Receptors*

8.3.7 In accordance with DMRB (LA 105: Air Quality) and the Natural England (2018) guidance documents, the study area for ecological impacts during both the construction and operational stage assessment includes any road (provided by the project transport consultants) that is within 200 m of ecological receptors predicted to experience:

- an increase in 1,000 AADT;
- an increase in 200 HDV AADT for heavy duty vehicles; and/or
- an increase in >1 % of critical level/load.

8.3.8 When modelling the impacts at ecological receptors, the IAQM (2020) guidance was considered, specifically with regards to Paragraph 5.4.1.13, which states:

*"Concentrations should not, however, be predicted too close to the roadway, since such predictions can be unreliable and may not represent areas of relevance to the assessment. It is recommended, for example, that predictions are not made closer than 2 m from the edge of a road"*

8.3.9 Therefore, no receptor locations were placed within 2 m of the edge of the road.

#### Wider Considerations

8.3.10 Due to the nature of the Proposed Development, and the volume of HGV traffic generated, it was not possible to consider all receptors that fell into the above categories. Hence, professional judgement was used to inform an assessment of worst case receptor locations, taking particular care in sensitive areas to air quality.

#### **Temporal Scope of Assessment**

##### Construction

8.3.11 For the assessment, these effects will be taken to be those for which the source begins and ends during the construction of the Proposed Development, as set out in Chapter 4 Proposed Development. The assumed assessment period for construction is Q4 2025 to Q4 2026.

##### Operation and Maintenance

8.3.12 For the assessment, these are the effects that begin once the Proposed Development is fully operational and includes the effects of the physical presence of the infrastructure, its operation, use and maintenance, including the permanent change in land use.

8.3.13 The assessment of operational effects will be the first full 12 months of operation (2030 in line with the wider transport works). However, it is noted that elements of the Proposed Development could become operational prior to this.

8.3.14 In addition to the above, the following scenarios have been considered:

- 2023 Verification;
- 2024 Baseline;
- 2026 Baseline;
- 2026 Baseline (Including relevant Committed Developments) + Construction Traffic;





- 2030 Baseline;
- 2030 Baseline + Proposed Development; and
- 2030 Baseline (Including relevant Committed Developments) + Proposed Development.

8.3.15 The traffic data for the above scenarios is set out in Appendix 8.4 (Volume 3).

#### Duration of Effects

8.3.16 Timescales associated with these effects, regardless of phase are as follows:

- short- term – endures for up to 12 months after construction;
- medium-term – endures for 1-5 years;
- long-term – endures for 5-15 years; and
- permanent effects – endures for more than 15 years and/or effects which cannot be reversed.

### **Assessment Methodology**

#### Construction

##### *Dust Risk Methodology*

8.3.17 To assess the potential impacts associated with dust and PM<sub>10</sub> release during the construction phase of the main Site works, and to determine any required mitigation measures, an assessment based upon IAQM (2024) guidance has been undertaken.

8.3.18 The criteria developed by IAQM (2024) divides the activities on construction sites into four different types to assess their different level of impacts upon receptors. These are:

- demolition;
- earthworks;
- construction; and
- track out.

8.3.19 The risk of dust effects (low, medium or high) is determined by the scale, (magnitude) and nature of the works being undertaken, along with the distance to the receptor.

8.3.20 The full methodology is set out in Appendix 8.2 (Volume 3), and the full assessment of the potential dust effects, in isolation of any ongoing works or committed developments, has been undertaken within this ES Chapter.

#### Construction and Operational Phase

##### *Traffic Impacts – Human Receptors*

8.3.21 The traffic estimates for both the construction and operational phases have been provided by the project team and compared to the EPUK & IAQM (2017) criterion thresholds, set out earlier and in Appendix 8.3 (Volume 3), to determine the level of assessment at various locations on the Affected Road Network (ARN) which have associated receptors which could be impacted.

*Road Traffic Emissions – Air Dispersion Modelling*

- 8.3.22 Air quality at specified receptor locations have been predicted using ADMS-Roads, (v5.0.0.3) dispersion modelling software, which is recognised as the leading air pollution modelling package in the UK. The model uses advanced algorithms for the height-dependence of wind speed, turbulence, and atmospheric stability to produce improved predictions of air pollutant concentrations. It can predict short and long-term concentrations, including percentile concentrations. The use of the ADMS-Roads model was agreed with the air quality Environment Health Officer at Hinkley and Bosworth Borough Council.
- 8.3.23 The model requires the user to provide various input data, including emissions from each section of road and the road characteristics, (including road width, where applicable) and meteorological data.
- 8.3.24 The main modelling parameters are set out in Appendix 8.5 (Volume 3).
- 8.3.25 The assessment scenarios have been previously set out in Paragraph 8.3.5.
- 8.3.26 AAC have been advised that the relevant committed development for the Aldi National Distribution Centre (planning ref: 20/00224/FUL), has been considered when regarding the traffic data. Background traffic growth has also been considered within the baseline scenarios.

*Road Traffic Emissions – Estimations at Ecological Receptors*

- 8.3.27 The Process Contribution (PC) and Predicted Environmental Concentration (PEC) of NO<sub>x</sub>, NH<sub>3</sub> and N/acid deposition at the discrete receptors have been compared against the relevant Critical Level/Load. As per the Central Governments (2021) Air emissions risk Assessment for our Environmental Permit guidance<sup>42</sup> on screening emissions:

*“To screen out a PC for any substance so that you do not need to do any further assessment of it, the PC must meet both of the following criteria:*

- the short term PC is less than 10 % of the short term environmental standard;*
- the long term PC is less than 1 % of the long term environmental standard.*

*If you meet both of these criteria you do not need to do any further assessment of the substance.”*

- 8.3.28 Where the PC alone cannot be screened, the PEC has been calculated and the following hierarchy of assessment has been followed:

*“If your long-term PC is greater than 1 % and your PEC is less than 70 % of the long-term environmental standard, the emissions are insignificant – you do not need to assess them any further.”*

*If your PEC is greater than 70 % of the long-term environmental standard, you need to do detailed modelling.”*

- 8.3.29 The considerations on the significance of any impacts on ecological receptors is detailed in Chapter 11: Biodiversity.

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<sup>42</sup> Environmental Agency and Department for Environment, Food & Rural Affairs (2021), *Air emissions risk assessment for your environmental permit*.



## Assessment of Significance

### Construction

#### *Dust Risk Impacts*

- 8.3.30 The IAQM (2024) guidance does not provide a method for assessing the significance of effects before mitigation and advises that pre-mitigation significance should not be determined. With appropriate mitigation in place, the IAQM (2024) guidance is clear that the residual effect will normally be 'not significant'.

### Construction and Operational Phase

#### *Traffic Emissions (Human Receptors)*

- 8.3.31 Currently there is no official guidance in the UK on how to describe the nature of air quality impacts, nor how to assess their significance. The approach developed by EPUK & IAQM (2017) has therefore been used. This approach involves a two-stage process:
- a quantitative description of the impacts on local air quality arising from a Proposed Development; and
  - a judgement on the overall significance of the effects of any impact.
- 8.3.32 The EPUK & IAQM (2017) guidance recommends that the degree of an impact is described by expressing the magnitude of incremental change in pollution concentration as a proportion of the relevant assessment level and examining this change in the context of the new total concentration and its relationship with the assessment criterion, as summarised in Table 8.2. The associated relevant air quality standards are set out in Table 8.3.

**Table 8.2: Impact descriptors for individual receptors**

Long Term Average Concentration at Receptor in Assessment Years	% Change in Concentration Relative to Air Quality Assessment Level (AQAL)				
	<0.5	1	2 – 5	6 – 10	>10
75 % or less of AQAL	Negligible	Negligible	Negligible	Slight	Moderate
76-94 % of AQAL	Negligible	Negligible	Slight	Moderate	Moderate
95-102 % of AQAL	Negligible	Slight	Moderate	Moderate	Substantial
103-109 % of AQAL	Negligible	Moderate	Moderate	Substantial	Substantial
110 % or more of AQAL	Negligible	Moderate	Substantial	Substantial	Substantial
Notes: Values are rounded to the nearest whole number. When defining the concentration as a percentage of the AQAL, use the 'without scheme' concentration where there is a decrease in pollutant concentration and the 'with scheme;' concentration for an increase. AQAL = Air Quality Assessment Level, which may be an air quality objective, EU limit or target value, or an Environment Agency 'Environmental Assessment Level (EAL)'.					



Table 8.3: National Air Quality Standards

Pollutant	Air Quality Standards		
	Average Period	Standard	Percentile Equivalent
Nitrogen Dioxide (NO <sub>2</sub> )	Annual Mean	40 µg/m <sup>3</sup>	-
	1-hour Mean	200 µg/m <sup>3</sup> not to be exceeded more than 18 times a year. <sup>A</sup>	99.79
Particulate Matter (PM <sub>10</sub> )	Annual Mean	40 µg/m <sup>3</sup>	-
	24-hour Mean	50 µg/m <sup>3</sup> not to be exceeded more than 35 times a year	90.41
PM <sub>2.5</sub>	Annual Mean	25 µg/m <sup>3</sup> - Stage 1 limit value pre 2020	-
	Annual Mean	20 µg/m <sup>3</sup> - Indicative Stage 2 limit value post 2020. 15 % reduction in background to be achieved between 2010 & 2020 at Urban Background sites. <sup>B</sup>	-
	Annual Mean	12 µg/m <sup>3</sup> - Interim Target to be achieved by 2028 and 22 % reduction in exposure achieved between 2018 & 2028. <sup>C</sup>	-
Notes: A Annual mean value of 60 µg/m <sup>3</sup> used to assess whether the NO <sub>2</sub> 1-hour mean objective will be exceeded. A study carried out on behalf of DEFRA and the Devolved Administrations identified that exceedances of the NO <sub>2</sub> 1-hour mean are unlikely to occur where the annual mean is below this concentration. B Current UK limit value. C As set out in the Environmental Improvement Plan (2023). These targets will help drive reductions in the worst PM <sub>2.5</sub> hotspots across the country, whilst ensuring nationwide action to improve air quality for everyone.			

8.3.33 The EPUK & IAQM (2017) advice provides guidance on the severity of an impact as a descriptor. However, although the impacts might be considered 'Slight,' 'Moderate' or 'Substantial' at one or more receptor location, the overall effects of a Proposed Development may not always be judged as being significant.

8.3.34 The EPUK & IAQM (2017) guidance goes on to state:

*"Where the air quality is such that an air quality objective at the building façade is not met, the effect on residents or occupants will be judged as significant, unless provision is made to reduce their exposure by some means."*

8.3.35 To note, when considering this, careful considerations has been made of the World Health Organisation (WHO) guidelines. The current air quality objectives were set based on NO<sub>2</sub> in particular being a threshold pollutant – i.e. that there is a safe level of NO<sub>2</sub> in the ambient air that will not damage the health of an average person. In recent years this has been called into question, and the WHO Guidelines, while not statutory, are considerably lower (10 µg/m<sup>3</sup> compared to 40 µg/m<sup>3</sup> for NO<sub>2</sub>). While using the current objectives is not technically incorrect, there is an argument to be made that any worsening of air quality, particularly within an AQMA, should not be allowed to occur as the potential to damage health is clear.



8.3.36 Air Quality is now the leading environmental risk factor globally, and the issue is rising in prominence all the time. As such, worsening the air quality within an existing AQMA, even by a small amount should be carefully considered.

8.3.37 The guidance considers that the assessment of significance should be based on professional judgement, with the overall air quality impact of the Proposed Development in isolation and in conjunction of other schemes described as either significant or not significant. In drawing this conclusion, the following factors should be taken into account:

- the number of receptors affected by different levels of effects;
- the magnitude of any changes and descriptors;
- whether a new exceedance of an objective or limit value is predicted to arise or an existing exceedance is removed, or an existing exceedance is substantially increased or reduced;
- the level of uncertainty, including the extent to which worst case assumptions have been made; and
- the extent of any exceedance of an objective or limit value.

8.3.38 When considering the above bullet points, consideration should be given to Section 7 of the EPUK & IAQM (2017) guidance. Paragraph 7.6 of this guidance states:

*“Often, it is possible to be very clear when an impact is sufficiently slight that it has no effect on receptors and can therefore be described unequivocally as ‘not significant.’ In the opposite case, when an impact is clearly substantial, it will be obvious that there is potential for a significant effect. The problem lies in the intermediate region where there is likely to be uncertainty on the transition from insignificant to significant. In those circumstances where a single development can be judged in isolation, it is likely that a ‘moderate’ or ‘substantial’ impact will give rise to a significant effect and a ‘negligible’ or ‘slight’ impact will not have a significant effect, but such judgements are always more likely to be valid at the two extremes of impact severity.”*

8.3.39 Paragraph 7.8 of this guidance goes on to state:

*“The population exposure in many assessments will be evaluated by describing the impacts at individual receptors. Often, these will be chosen to represent groups of residential properties, for example, and the assessor will need to consider the approximate number of people exposed to impacts in the various different categories of severity, in order to reach a conclusion on the significance of effect. An individual property exposed to a moderately adverse impact might not be considered a significant effect, but many hundreds of properties exposed to a slight adverse impact could be. Such judgements will need to be made taking into account multiple factors and this guidance avoids the use of prescriptive approaches.”*

8.3.40 The judgement of the significance should be made by a competent professional who is suitably qualified. A summary of the professional experience of the staff contributing to this assessment is provided in the Competency Statement of this ES (Appendix 1.2; Volume 3).

#### Determining the Level of Effect for EIA Purposes

8.3.41 The EIA magnitudes of change (large, medium, small, and negligible) have also been used in addition to the EPUK & IAQM (2017) descriptors to describe the air quality impact at all sensitive human receptors. The EPUK & IAQM (2017) impact descriptor of ‘substantial’ corresponds to a large magnitude of change, a ‘moderate’ impact corresponds to medium



magnitude of change, a 'slight' impact corresponds to a small magnitude of change and a 'negligible' impact corresponds to a negligible magnitude of change.

- 8.3.42 The level of effect has been informed by the magnitude of change due to the Proposed Development in isolation and in conjunction of other schemes and the evaluation of the sensitivity of the affected receptor. The level of effect has been determined using professional judgement, current Air Quality Standards and World Health Organisation (WHO) knowledge (which is discussed further the Determining Significance section of this ES Chapter). Table 8.4 has been a tool which has assisted with this process.

**Table 8.4: Matrix to support determining the level of effect**

Magnitude of Change		Sensitivity			
		High	Medium	Low	Negligible
	Large	Major	Moderate to Major	Minor to Moderate	Negligible
	Medium	Moderate to Major	Moderate	Minor	Negligible
	Small	Minor to Moderate	Minor	Negligible to Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

- 8.3.43 The following terms have been used to define the level of the effects identified and these can be 'beneficial' or 'adverse':

- major effect: where the Proposed Development in isolation and in conjunction of other schemes is likely to cause a considerable change from the baseline conditions and the receptor has limited adaptability, tolerance or recoverability or is of the highest sensitivity;
- moderate effect: where the Proposed Development in isolation and in conjunction of other schemes is likely to cause either a considerable change from the baseline conditions at a receptor which has a degree of adaptability, tolerance or recoverability or a less than considerable change at a receptor that has limited adaptability, tolerance or recoverability;
- minor effect: where the Proposed Development in isolation and in conjunction of other schemes is likely to cause a small, but noticeable change from the baseline conditions on a receptor which has limited adaptability, tolerance or recoverability or is of the highest sensitivity; or where the Proposed Development is likely to cause a considerable change from the baseline conditions at a receptor which can adapt, is tolerant of the change or/and can recover from the change; and
- negligible: where the Proposed Development in isolation and in conjunction of other schemes is unlikely to cause a noticeable change at a receptor, despite its level of sensitivity or there is a considerable change at a receptor which is not considered sensitive to a change.

- 8.3.44 To note, both professional judgement and the overall air quality concentrations in relation to the relevant air quality standard should also be a key consideration when determining the effect, as highlighted in the Determining Significance section below.



#### Construction & Operational Traffic (Human Receptors) Determining the Level of Significance for EIA Purposes

- 8.3.45 For each residual effect, a statement has been made as to whether the level of effect is 'Significant' or 'Not Significant.' This determination has been based on professional judgement and/or relevant guidance/legislation where applicable. This approach is based upon the EPUK & IAQM (2017) approach discussed above.

#### Construction & Operational Traffic (Ecological Receptors)

- 8.3.46 Whether an impact on sensitive ecological receptors is deemed significant or not significant will be considered by the project ecologist, as set out in Chapter 11: Biodiversity. However, the targets and limits that are permitted for the protection of ecosystems and vegetation (where applicable), which are relevant to this chapter are set out in Table 8.5.

**Table 8.5: Vegetation and ecosystems critical levels/loads**

Pollutant	Vegetation and Ecosystems Critical Levels/Loads	
	Average Period	Critical Level
Oxides of Nitrogen (NO <sub>x</sub> )	Annual Mean	30 µg/m <sup>3</sup>
	24-hour Mean	200 µg/m <sup>3</sup>
	24-hour Mean	75 µg/m <sup>3</sup> *
Ammonia (NH <sub>3</sub> )	Annual Mean	1 µgm <sup>-3</sup>
Oakley Wood Site of Special Scientific Interest (SSSI)		
Nutrient Nitrogen Deposition	Annual Mean	15 - 20 kg N/ha/yr
Acidity Deposition	Annual Mean	MinCLminN: 0.214 – MaxCLminN: 1.862.
Notes: The WHO state that where SO <sub>2</sub> and O <sub>3</sub> are not present at their respective limits, a 200 µg/m <sup>3</sup> daily mean would be more appropriate		

#### **Assumptions and Limitations**

##### Traffic Data

- 8.3.47 The model is dependent on traffic data provided for the project, and should this be subject to change, so may the resulting pollution concentrations and assessment of significance.
- 8.3.48 For the purposes of considerations of the impacts on ecological receptors, the screening of air quality impacts on ecological receptors has considered the change in AADT as a result of the Proposed Development in isolation and in conjunction of other schemes. The Natural England (2018) guidance states:

*"The AADT thresholds do not themselves imply any intrinsic environmental effects and are used solely as a trigger for further investigation. Widely accepted Environmental Benchmarks for imperceptible impacts are set at 1 % of the critical load or level, which is considered to be roughly equivalent to the DMRB thresholds for changes in traffic flow of 1000 AADT and for HDV 200 AADT. This has been confirmed by modelling using the DMRB Screening Tool that used average traffic flow and speed figures from Department of Transport data to calculate whether the NO<sub>x</sub> outputs could result in a change of > 1 % of critical/load level on different road types. A change of >1000 AADT on a road was found to equate to a change in traffic flow*





*which might increase emissions by 1 % of the Critical Load or Level and might consequentially result in an environmental effect nearby (e.g. within 10 metres of roadside)."*

- 8.3.49 As previously referenced in Paragraph 8.3.10, it was not possible to assess every relevant human and ecological receptor which may be impacted by increase of traffic flows which exceed the relevant screening criterion. In general, the study area was taken to be 10 km from the Site, where the worst case impacts would be reasonably expected.
- 8.3.50 It should be noted that the existing traffic movements from the Pall-Ex Distribution Centre have been captured in the traffic counts undertaken and no allowance for reductions because of the relocation have been applied, thereby providing a robust assessment.

#### Emission Factor Toolkit

- 8.3.51 The Emission Factor Toolkit used to inform the 2023 and 2030 scenario assessment is EFT v12.1. It must be noted, DEFRA's Emission Factor Toolkit (v13.0) was introduced after the modelling process was undertaken and therefore could not be used.

#### Background Data

- 8.3.52 Where necessary, the background air quality concentrations have been taken from the DEFRA background mapping website<sup>43</sup>. The DEFRA website includes estimated background air pollution data for NO<sub>x</sub>, NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> for each 1 km by 1 km OS grid square. Background pollutant concentrations are modelled from the base year of 2021 and based on ambient monitoring and meteorological data from 2021. The mapping includes projections for future years, up to currently 2040. Furthermore, the concentrations are modelled at a standard 'living height,' which has been averaged across the grid square.
- 8.3.53 There is discrepancy between the concentrations mapped by DEFRA and those recorded at local background sites. Therefore, background concentrations should be adjusted based on the ratio between these two measurements. This is supported by the TG(22) which states:
- "Where a model has been used to predict background concentrations (for example based on an emissions inventory), the modelled background concentrations should also be verified and where necessary adjusted.*
- If national background maps are used, these should first be compared against any local monitoring to check they are representative of the area. In most cases there is good agreement with local monitoring, but some locations may not agree. Local authorities are not expected to verify and adjust the national background maps. Where these estimates do not agree with local monitoring, either local monitoring may be used, or local authorities may consider adjusting the background maps."*
- 8.3.54 It was not possible to calibrate background concentrations in any of the local authorities considered for the assessment (these being Hinkley and Bosworth Borough Council, NWLDC and Blaby District Council (BDC)), due to a lack of urban background monitoring available in these local authorities. Therefore, the DEFRA background concentrations have been calibrated in line with the methodology set out in the Air Quality Consultants (2025)<sup>44</sup> document.

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<sup>43</sup> Department for Environment, Food & Rural Affairs, *Background Mapping data for local authorities – 2021*.

<sup>44</sup> Air Quality Consultants (2025), *Calibrating Defra's 2021-based Background Maps against 2022, 2023 & 2024 Measurements*.





### Modelling Uncertainty

- 8.3.55 To note, in order to avoid double counting of potential source contributions already contained within the ADMS-Roads dispersion model, 'Motorway in' was removed from each grid square where the full extent of the respective road type was modelled, as recommended in the Defra Background Maps User Guide<sup>45</sup>. As the relationship between NO<sub>2</sub> and NO<sub>x</sub> is not linear, the NO<sub>2</sub> Adjustment for NO<sub>x</sub> Sector Removal Tool<sup>46</sup> has been used.
- 8.3.56 Verification processes have been carried out, following the guidance set out in TG(22), and is detailed in full in Appendix 8.7 (Volume 3). This process is undertaken in order to reduce modelling uncertainty, however some inherent uncertainty remains with these results.

### **Scoped Out**

- 8.3.57 AAC have been advised that a backup diesel generator is set to be installed at the Proposed Development. Therefore, a screening assessment has been undertaken in line with the Environment Agency (2019) *Specified generator: when you need a permit*<sup>47</sup>, guidance. The guidance states with regards to permit requirements on backup diesel generators:

*"You must not carry out more than 50 hours testing a year for each backup generator*

*[...]*

*For each backup generator, you must record the number of hours you test during the year. This is to demonstrate that you meet the exclusion criteria"*

- 8.3.58 In line with the above, AAC have ascertained from the wider project team that the generator would not be tested for more than 50 hours per year, and the number of hours the generator is tested for will be recorded. Therefore, the generator would not require a permit for its use.
- 8.3.59 Therefore, the Environment Agency (2019) *Specified generators: dispersion modelling assessment*<sup>48</sup> guidance has been consulted. This states:
- "You only need to do an air dispersion modelling assessment if your specified generator requires a complex bespoke permit."*
- 8.3.60 Since no permit is required, no dispersion modelling is required, and the effects can be considered likely to be 'not significant' and no further assessment is required.

## **8.4 Baseline Conditions**

### **Site Context**

#### Local Authority Monitoring

- 8.4.1 Local Air Quality Management (LAQM) has been assessed by local authorities through the National Review and Assessment process and in fulfilment of Part IV of the Environmental Act 1995.

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<sup>45</sup> Department for Environment, Food & Rural Affairs, *Background Concentration Maps User Guide*.

<sup>46</sup> Department for Environment, Food & Rural Affairs, *NO<sub>2</sub> Adjustment for NO<sub>x</sub> Sector Removal Tool*.

<sup>47</sup> Environment Agency, Natural Resources Wales, Department for Environment, Food & Rural Affairs and Welsh Government (2019). *Specified generator: when you need a permit*.

<sup>48</sup> Environment Agency & Natural Resources Wales (2019). *Specified generators: dispersion modelling assessment*.



- 8.4.2 At the time of writing, Hinkley and Bosworth Borough Council currently do not have any declared AQMAs. To note, the nearest AQMA to the Site is the Copt Oak AQMA, declared by NWLDC for exceedances of the NO<sub>2</sub> annual-mean objective. The AQMA sits approximately ~5.1 km northeast of the Site.
- 8.4.3 Hinkley and Bosworth Borough Council do not undertake any automatic monitoring within the jurisdiction. Instead, Hinkley and Bosworth Borough Council have an extensive network of non-automatic NO<sub>2</sub> diffusion tubes located across the jurisdiction. Neighbouring NWLDC have four automatic monitoring locations that have recorded concentrations of NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. To support the automatic monitoring, NWLDC also has an extensive network of non-automatic NO<sub>2</sub> diffusion tubes located across the jurisdiction.
- 8.4.4 Table 8.6 sets out the NO<sub>2</sub> annual mean monitoring data for the past five years of available data, with Table 8.7, Table 8.8, Table 8.9 and Table 8.10 doing so for NO<sub>2</sub> 1-hour mean, PM<sub>10</sub> annual mean, PM<sub>10</sub> 24-hour mean and PM<sub>2.5</sub> annual mean monitoring data respectively.

**Table 8.6: Local authority NO<sub>2</sub> annual mean monitoring results**

Site	Site Type	NO <sub>2</sub> Annual Mean Concentration (µg/m³)				
		2019	2020	2021	2022	2023
Hinkley and Bosworth Borough Council						
Diffusion Tubes						
10, 12, 14	Rural*	35.1	26.8	28.8	27.1	26.1
NWLDC						
Automatic Monitoring						
Z3	Roadside	-	-	-	19.8	18.3
Z4	Rural	-	-	-	27.3	22.3
Diffusion Tubes						
06N	Roadside	32.5	25.3	21.4	14.1	23.4
08N	Rural	22.4	16.9	18.8	13.2	15.1
32N	Other	53.9	39.3	39.9	23.6	38.8
43N	Roadside	25.8	23.2	19.2	16.4	19.9
49N	Roadside	30.9	24.5	25.5	14.5	23.5
50N	Roadside	33.2	29.2	28.6	14.5	23.9
56N	Roadside	34.2	26.7	22.7	16.7	27.6
57N	Roadside	32.0	27.3	27.8	17.1	22.9
58N	Roadside	23.1	21.3	23.2	23.6	15.6
63N	Roadside		18.9	18.5	16.7	16.7
64N	Roadside			21.1	15.5	27.3
65N*	Roadside				41.0	12.8
66N	Roadside				11.4	14.9
67N	Roadside				11.9	16.3



Site	Site Type	NO <sub>2</sub> Annual Mean Concentration (µg/m <sup>3</sup> )				
		2019	2020	2021	2022	2023
68N	Roadside				14.2	12.6
Notes: <b>Bold</b> indicates exceedances of the NO <sub>2</sub> annual mean objective * Indicates a monitoring location with < 75 % data capture						

Table 8.7: Local authority NO<sub>2</sub> 1-hour mean monitoring results

Site	Site Type	NO <sub>2</sub> Number of 1-hour Means > 200 µg/m <sup>3</sup>	
		2022	2023
NWLDC			
Automatic Monitoring			
Z3	Roadside	0	0
Z4	Rural	219 (541)	120
Results are presented as the number of one-hour periods where concentrations greater than 200µg.m <sup>-3</sup> have been recorded. Exceedances of the NO <sub>2</sub> 1-hour mean objective (200µg.m <sup>-3</sup> not to be exceeded more than 18 times/year) are shown in <b>bold</b> . If the period of valid data is less than 85 %, the 99.8th percentile of one-hour means is provided in brackets.			

Table 8.8: Local authority PM<sub>10</sub> annual mean monitoring results

Site	Site Type	PM <sub>10</sub> Annual Mean Monitoring Results	
		2022	2023
NWLDC			
Automatic Monitoring			
Z3	Roadside	12.72	11.38
Z4	Rural	9.65	10.84

Table 8.9: Local authority PM<sub>10</sub> 24-hour mean monitoring results

Site	Site Type	PM <sub>10</sub> 24-Hour Mean Monitoring Results	
		2022	2023
NWLDC			
Automatic Monitoring			
Z3	Roadside	0 (36)	0
Z4	Rural	0 (35.9)	0
Results are presented as the number of 24-hour periods where daily mean concentrations greater than 50µg.m <sup>-3</sup> have been recorded. Exceedances of the PM <sub>10</sub> 24-hour mean objective (50µg.m <sup>-3</sup> not to be exceeded more than 35 times/year) are shown in <b>bold</b> . If the period of valid data is less than 85 %, the 90.4th percentile of 24-hour means is provided in brackets.			

Table 8.10: Local authority PM<sub>2.5</sub> annual mean monitoring results

Site	Site Type	PM <sub>2.5</sub> Annual Mean Monitoring Results	
		2022	2023
NWLDC			



Site	Site Type	PM <sub>2.5</sub> Annual Mean Monitoring Results	
		2022	2023
Automatic Monitoring			
Z3	Roadside	9.7	6.86
Z4	Rural	7.5	6.37

- 8.4.5 The air quality monitoring carried out closest to the Site shows a general compliance of the NO<sub>2</sub> annual mean objective, NO<sub>2</sub> 1-hour mean objective and PM<sub>10</sub> 24-hour mean objective, for the last five years of available data. The air quality monitoring near to the Site shows a complete compliance with the PM<sub>10</sub> annual mean objective and PM<sub>2.5</sub> annual mean limit.
- 8.4.6 To note, due to the impact of the COVID-19 pandemic on traffic, 2020 and 2021 concentrations are not considered to be representative of 'typical' air quality concentrations. Whilst it is expected that as a result of the COVID-19 pandemic that behavioural changes have occurred (such as hybrid working patterns), data on the impact of this on air quality long-term is currently limited to monitoring data collected in 2022 and 2023 (as 2024 data is not available at the time of writing), therefore long-term conclusions cannot be drawn, but early evidence is showing a general reduction.

#### Background Concentrations

- 8.4.7 It is considered that the majority of the Site would be more representative of background concentrations due to the Site being set back from the main highway network. As set out previously, the calibrated background concentrations for modelled human receptors (as set out in Appendix 8.8; Volume 3) have been obtained from DEFRA Background Mapping and are set out in Table 8.11.

**Table 8.11: Background concentrations (human receptors)**

Pollutant	Concentrations (µg/m <sup>3</sup> )				
	2023	2024	2025	2026	2030
<b>NO<sub>2</sub></b>	7.7 – 12.7	6.2 – 12.8	6.9	8.0 – 9.6	5.3 – 9.3
<b>PM<sub>10</sub></b>	12.6 – 15.5	11.9 – 15.5	12.7	13.4 – 14.1	11.5 – 15.0
<b>PM<sub>2.5</sub></b>	6.9 – 8.1	6.5 – 8.0	6.8	6.9 – 7.3	6.1 – 7.6
Notes: Data presented for 2023 for the grid squares used in the verification process. Data is presented for 2024, 2026 and 2030 for the relevant receptor locations set out in Appendix 8.8 (Volume 3). Data is presented for 2025 for the grid square covering the Site.					

- 8.4.8 Background concentrations relevant to nitrogen and acid deposition rates at chosen ecological receptors (as set out in Appendix 8.9; Volume 3) are set out in Table 8.12. As set out previously, these have been obtained from both the DEFRA Background Mapping website, and the APIS Website<sup>49</sup>.

<sup>49</sup> Joint Nature Conservation Committee, Environment Agency, Northern Ireland Environment Agency, NatureScot, sniffer, Natural England, Natural Resources Wales, Scottish Environment Protection Agency & UK Centre for Ecology & Hydrology. *Air Pollution Information System*.



Table 8.12: Background concentrations (ecological receptors – Oakley Wood SSSI)

Pollutant	Concentrations ( $\mu\text{g}/\text{m}^3$ )
	2030
NO <sub>2</sub>	6.2
NO <sub>x</sub>	8.6
NH <sub>3</sub>	1.6
Deposition Rates	
Nitrogen Deposition (kgN/ha/yr)	28.2
Acid Deposition (keq/ha/yr)	2.1

### Baseline Modelling Assessment

#### Modelled Baseline Concentrations

- 8.4.9 Concentrations of NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> have been modelled at each of the human receptor locations set out in Appendix 8.8 (Volume 3), for a Baseline year of 2024. It is not deemed necessary to model baseline concentrations at ecological receptors (as set out in Appendix 8.9; Volume 3) as only the change in concentrations is deemed relevant in most circumstances. The results setting out the modelled concentration at each receptor are set out in Appendix 8.10 (Volume 3).
- 8.4.10 The predicted concentrations of NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> are below their respective annual mean standards at all modelled receptors.
- 8.4.11 The annual mean NO<sub>2</sub> concentrations in Table 8.10.1 in Appendix 8.10 (Volume 3) are all below 60  $\mu\text{g}/\text{m}^3$ , which is regarded to be an indicator that the hourly mean objective would also not be breached.
- 8.4.12 For PM<sub>10</sub>, the following equation can be used to derive the number of days that the 24-hour mean objective (50  $\mu\text{g}/\text{m}^3$ ) is likely to be exceeded:
- $$\text{No.24 hour exceedances} = -18.5 + 0.00145 \times [\text{annual mean}]^3 + (206/(\text{annual mean}))$$
- 8.4.13 The highest annual mean PM<sub>10</sub> concentration in Table 8.10.1 in Appendix 8.10 (Volume 3) is 18.9  $\mu\text{g}/\text{m}^3$ . Based on the formula above, this predicts 2.1 exceedance days, which is below the 35-days annual limit. It is therefore thought that none of the receptors are exposed to any material impact from the short-term concentrations of PM<sub>10</sub> in 2024.

### Future Baseline

#### Modelled Future Baseline Concentrations

- 8.4.14 Concentrations of NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> have been modelled at each of the human receptor locations set out in Appendix 8.8 (Volume 3), for a Baseline year of 2030. It is not deemed necessary to model baseline concentrations at ecological receptors (as set out in Appendix 8.9; Volume 3) as only the change in concentrations is deemed relevant in most circumstances. The results setting out the modelled concentration at each receptor are set out in Appendix 8.10 (Volume 3).
- 8.4.15 The predicted concentrations of NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> are below their respective annual mean



standards at all modelled receptors.

8.4.16 The annual mean NO<sub>2</sub> concentrations in Table 8.10.2 in Appendix 8.10 (Volume 3) are all below 60 µg/m<sup>3</sup>, which is regarded to be an indicator that the hourly mean objective would also not be breached.

8.4.17 For PM<sub>10</sub>, the following equation can be used to derive the number of days that the 24-hour mean objective (50 µg/m<sup>3</sup>) is likely to be exceeded:

$$\text{No.24 hour exceedances} = -18.5 + 0.00145 \times [\text{annual mean}]^3 + (206 / (\text{annual mean}))$$

8.4.18 The highest annual mean PM<sub>10</sub> concentration in Table 8.10.2 in Appendix 8.10 (Volume 3) is 18.5 µg/m<sup>3</sup>. Based on the formula above, this predicts 1.8 exceedance days, which is below the 35-days annual limit. It is therefore thought that none of the receptors would be exposed to any material impact from the short-term concentrations of PM<sub>10</sub> in 2030.

## 8.5 Assessment of Effects

### Construction

#### Dust Risk Impacts

8.5.1 The assessment of demolition and construction has been undertaken in line with the IAQM (2024) Guidance methodology. The full construction dust risk assessment is set out in Appendix 8.6 (Volume 3). A summary of the assessment is provided below.

8.5.2 The dust risk assessment has classified the Site as 'medium risk'. To note, the IAQM (2024) guidance does not provide a method for assessing the significance of effects before mitigation and it is assumed that with appropriate mitigation measures in place, the guidance is clear that the residual effect would be temporary and normally be not significant.

#### Traffic Emissions (Human Receptors)

8.5.3 A review of the predicted traffic numbers associated with the construction phase have been screened against the EPUK & IAQM (2017) thresholds, which is set out in Chapter 8.3.6. The predicted worst case traffic impacts are anticipated to generate c. 143 light vehicular and 28 HGV two-way movements a day. This level of traffic generation does not breach the EPUK & IAQM (2017) thresholds for a Site inside or outside an AQMA.

8.5.4 Therefore, a full impact assessment has been undertaken and the impacts at nearby high sensitivity residential receptors would be deemed as temporary, not significant/negligible.

#### Traffic Emissions (Ecological Receptors)

8.5.5 A review of the predicted traffic numbers associated with the construction phase have been screened against the DMRB (2024) thresholds set out in Chapter 8.2. The predicted worst case traffic impacts are anticipated to generate c. 143 light vehicular and 28 HGV two-way movements a day. This level of traffic generation does not breach the DMRB (2024) thresholds.

8.5.6 Therefore, a full impact assessment has been undertaken. As previously referenced in relation to ecological impacts it is not deemed appropriate for the project air quality consultant to comment on magnitude of impacts, and therefore this is not discussed further.



## Operation

### Traffic Emissions – Human Receptors

- 8.5.7 A review of the predicted traffic numbers associated with the operational phase have been screened against the EPUK & IAQM (2017) thresholds set out in Chapter 8.3.6. The predicted traffic impacts indicate a breach of the EPUK & IAQM (2017) thresholds. Therefore, a full impact assessment has been undertaken.
- 8.5.8 The predicted effects of the operational traffic on the annual mean concentrations of NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> in 2030 (for the previously specified human receptors, set out in Appendix 8.8, Volume 3) are set out in Appendix 8.11 in Table 8.11.1, Table 8.11.2, and Table 8.11.3 (Volume 3). These tables also set out the impact descriptors in line with the EPUK & IAQM (2017) Guidance, and are considered against the annual mean air quality standards set out in Table 8.3 at each receptor location in line with the assessment matrix set out in Table 8.2, and converted into EIA magnitudes in line with Table 8.4.

#### NO<sub>2</sub>

- 8.5.9 The modelled NO<sub>2</sub> concentrations in Table 8.11.1 in Appendix 8.11 (Volume 3) show that all of the modelled receptors comply with the NO<sub>2</sub> annual mean objective (40µg/m<sup>3</sup>) for the 2030 Baseline and 2030 Baseline + Proposed Development Traffic scenario.
- 8.5.10 Furthermore, as all the annual mean NO<sub>2</sub> concentrations are below 60µg/m<sup>3</sup>, it is unlikely that the 1-hour mean NO<sub>2</sub> objective would be exceeded.
- 8.5.11 The maximum predicted increase across all modelled receptors was noted at receptor AB.R2a, where there was a 3.2 µg/m<sup>3</sup> increase. Receptors AB.R2a and AB.R2b noted a minor (adverse) impacts, while all the impacts at all remaining receptors can be described as negligible (adverse).
- 8.5.12 Using the matrix in Table 8.2 and EIA magnitudes, the NO<sub>2</sub> effects at all receptors are anticipated to be negligible (adverse) to minor (adverse).

#### PM<sub>10</sub>

- 8.5.13 The modelled PM<sub>10</sub> concentrations in Table 8.11.2 in Appendix 8.11 (Volume 3) show that all of the modelled receptors comply with the PM<sub>10</sub> annual mean objective (40 µg/m<sup>3</sup>) for the 2030 Baseline and 2030 Baseline + Proposed Development Traffic scenario.
- 8.5.14 The maximum predicted increase across all modelled receptors was noted at receptor AB.R2a and AB.R2b, where there was a 1.2 µg/m<sup>3</sup> increase.
- 8.5.15 For PM<sub>10</sub>, the following equation can be used to derive the number of days that the daily mean limit (of 50 µg/m<sup>3</sup>) is likely to be exceeded:

$$\text{No.24 hour exceedances} = -18.5 + 0.00145 \times [\text{annual mean}]^3 + (206/(\text{annual mean}))$$

- 8.5.16 The highest annual mean PM<sub>10</sub> concentration in Table 8.11.2 in Appendix 8.11 (Volume 3) is 18.6 µg/m<sup>3</sup>, noted at receptor KL.R7. Based on the formula above, this predicts 1.9 exceedance days, which is below the 35-days annual limit. Therefore, it can be assumed that no receptors would be exposed to any material impact from the short-term concentrations of PM<sub>10</sub>.
- 8.5.17 Using the matrix in Table 8.2 and EIA magnitudes, the PM<sub>10</sub> effects at all receptors are anticipated to be negligible (adverse).

*PM<sub>2.5</sub>*

- 8.5.18 The modelled PM<sub>2.5</sub> concentrations in Table 8.11.3 in Appendix 8.11 (Volume 3) show that all of the modelled receptors are below the Stage 2 Post 2020 annual mean limit (20 µg/m<sup>3</sup>) for the 2030 Baseline and 2030 Baseline + Proposed Development Traffic scenario.
- 8.5.19 The maximum predicted increase across all modelled receptors was noted at receptor AB.R2a, where there was a 0.7 µg/m<sup>3</sup> increase.
- 8.5.20 Using the matrix in Table 8.2 and EIA magnitudes, the PM<sub>2.5</sub> effects at all receptors are anticipated to be negligible (adverse).

Traffic Emissions – Ecological Receptors

- 8.5.21 Site relevant critical levels/loads are set out in Table 8.5, with background concentrations/deposition rates set out in Table 8.12. To note, worst case critical levels/loads were used to inform the assessment.
- 8.5.22 The process contribution to annual mean NO<sub>x</sub> and NH<sub>3</sub> concentrations have been assessed as a percentage of the critical level. The modelled transect points, in line with the IAQM (2020) guidance (transects perpendicular to the road up to 200 m) are set out in Appendix 8.9 (Volume 3). The modelled NO<sub>x</sub> (annual mean and 24-hour mean) and NH<sub>3</sub> concentrations are set out in Appendix 8.12 (Volume 3).

*Critical Levels*

- 8.5.23 As set out in Table 8.12.1 in Appendix 8.12 (Volume 3), the highest annual mean NO<sub>x</sub> PC increase is 0.17 µg/m<sup>3</sup>, predicted 0 m from the edge of Oakley Wood SSSI. The increase at the modelled transect point does not exceed the 1 % increase criteria of the long-term critical level; therefore, a further detailed assessment is not required.
- 8.5.24 As set out in Table 8.12.2 in Appendix 8.12 (Volume 3), the highest 24-hour mean NO<sub>x</sub> PC increase is 0.06 µg/m<sup>3</sup>, predicted 0 m from the edge of Oakley Wood SSSI. The increase at the modelled transect point does not exceed the 10 % increase criteria of the short-term critical level, therefore a further detailed assessment is not required.
- 8.5.25 As set out in Table 8.12.3 in Appendix 8.12 (Volume 3), the highest annual mean NH<sub>3</sub> PC increase is 0.02 µg/m<sup>3</sup>, predicted 0 m from the edge of Oakley Wood SSSI. The modelled transect point exceeds the 1 % increase criteria of the long-term critical level (up to 40 m from the kerb of the road), therefore a further detailed assessment is required considering critical load.

*Critical Load*

- 8.5.26 As the screening criteria has been exceeded at a number of transect points, the nitrogen and acid deposition has been calculated.
- 8.5.27 As set out in Table 8.12.4 in Appendix 8.12 (Volume 3), the change in nitrogen deposition is above the 1 % threshold for a distance up to ~10 m from the edge of Oakley Wood SSSI. This indicates these areas require evaluation by a qualified ecologist.
- 8.5.28 As set out in Table 8.12.5 in Appendix 8.12 (Volume 3), the change in acid deposition does not exceed the 1 % threshold at any point on the modelled transect. Therefore, no further assessment of acid deposition is deemed to be required.





## 8.6 Mitigation, Enhancement and Residual Effects

- 8.6.1 This Section of this chapter refers to the types of mitigation used as part of the Proposed Development, as defined in Chapter 2 Assessment Scope and Methodology, and how they apply to the assessment of air quality.
- 8.6.2 The Applicant has sought to identify and incorporate suitable measures and mitigation for potentially significant adverse effects, as well as maximising beneficial effects where possible. This has been achieved through an iterative process including consultation and engagement with consultees and through the EIA process.
- 8.6.3 Some primary and tertiary measures are embedded in the design of the Proposed Development, including the location and size of infrastructure, as defined in the Work Plans. Other measures are either secondary, termed tertiary, such as control and management plans, or measures integrated into legal requirements *via* environmental permits and consents.
- 8.6.4 The following sets out the embedded measures (primary), legal requirements (tertiary) and additional measures (secondary) relevant to the assessment of air quality.

### Construction

#### Primary (Embedded) and Tertiary Measures

- 8.6.5 Table 8.13 sets out the primary and tertiary (embedded) mitigation measures that will be adopted during construction and operation of the Proposed Development. A full list of recommended construction dust risk mitigation measures is set out in Appendix 8.13 (Volume 3). These will be developed as part of the outline CEMP (Appendix 4.1; Volume 3) which will be secured *via* planning condition.

**Table 8.13: Primary and tertiary mitigation measures adopted as part of the Proposed Development**

Mitigation measure	Type	Applied to	Justification
Dust risk mitigation measures	Secured <i>via</i> condition	Construction phase	In line with IAQM (2024) guidance, in order to assure the impacts of the construction phase will be 'not significant'
CEMP	Secured <i>via</i> condition	Construction phase	To secure air pollution reduction/prevention mitigation

#### *Secondary (Additional) Mitigation*

- 8.6.6 No secondary mitigation is deemed to be required in relation to air quality.

#### Enhancements

- 8.6.7 As no significant effects have been identified, no enhancements are required for the Proposed Development.

#### Residual

- 8.6.8 With the Detailed CEMP and appropriate mitigation in place, the residual air quality effects are negligible and 'not significant' for all receptors.



## Operation

### Primary (Embedded) and Tertiary Measures

- 8.6.9 Table 8.14 sets out the primary and tertiary (embedded) mitigation measures that will be adopted during construction and operation of the Proposed Development.

**Table 8.14: Primary and tertiary mitigation measures adopted as part of the Proposed Development**

Mitigation measure	Type	Applied to	Justification
Travel Plan	Secured during planning process	Operational phase	To highlight alternatives to the private motor vehicle
Electric Vehicle (EV) charging on Site	Secured during planning process	Operational phase	To encourage use of EVs to travel to work

### *Secondary (Additional) Mitigation*

- 8.6.10 No secondary mitigation is deemed to be required in relation to air quality.

### Enhancements

- 8.6.11 As no significant effects have been identified, no enhancements are required for the Proposed Development.

### Residual

#### *Traffic Impacts – Human Receptors*

- 8.6.12 The residual effects remain unchanged as the effect without mitigation, which are likely to be negligible and 'not significant' for all human receptors.

#### *Traffic Impacts – Human Receptors*

- 8.6.13 The residual effects remain unchanged as the effect without mitigation. These have been considered in Chapter 11: Biodiversity.

## 8.7 Cumulative and In-Combination Effects

### **Cumulative Development**

- 8.7.1 The assessment of cumulative effects has considered the potential for significant effects to arise from the in-combination effects of the Aldi National Distribution Centre which is under construction on land off B585 Wood Road, to the south west of the site. Wider growth in the area, associated with other developments, should be captured in TEMPro factors applied to the traffic data in order to project to a future scenario.

### Construction Phase Traffic Emissions – Human Receptors

- 8.7.2 The predicted effects of the construction traffic (in combination with relevant committed developments) on the annual mean concentrations of NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> in 2026, (for the previously specified human receptors, set out in Appendix 8.8; Volume 3) are set out in Appendix 8.14 in Table 8.14.1, Table 8.14.2, and Table 8.14.3 (Volume 3). These tables also



set out the impact descriptors in line with the EPUK & IAQM (2017) Guidance and are considered against the annual mean air quality standards set out in Table 8.3 at each receptor location in line with the assessment matrix set out in Table 8.2, and converted into EIA magnitudes in line with Table 8.4.

#### *NO<sub>2</sub>*

- 8.7.3 The modelled NO<sub>2</sub> concentrations in Table 8.14.1 in Appendix 8.14 (Volume 3) show that all of the modelled receptors comply with the NO<sub>2</sub> annual mean objective (40 µg/m<sup>3</sup>) for the 2026 Baseline and 2026 Baseline + Committed Developments + Proposed Construction Traffic Development Traffic scenario.
- 8.7.4 Furthermore, as all the annual mean NO<sub>2</sub> concentrations are below 60 µg/m<sup>3</sup>, it is unlikely that the 1-hour mean NO<sub>2</sub> objective would be exceeded.
- 8.7.5 The maximum predicted increase across all modelled receptors was noted at receptor AB.R2a, where there was a 5.5 µg/m<sup>3</sup> increase. Receptors AB.R2a and AB.R2b noted a moderate (adverse) impact, while all the impacts at all remaining receptors can be described as negligible (adverse).
- 8.7.6 Using the matrix in Table 8.2 and EIA magnitudes, the NO<sub>2</sub> effects at all receptors are anticipated to be negligible (adverse) to moderate (adverse).

#### *PM<sub>10</sub>*

- 8.7.7 The modelled PM<sub>10</sub> concentrations in Table 8.14.2 in Appendix 8.14 (Volume 3) show that all of the modelled receptors comply with the PM<sub>10</sub> annual mean objective (40 µg/m<sup>3</sup>) for the 2026 Baseline and 2026 Baseline + Committed Developments + Proposed Construction Traffic scenario.
- 8.7.8 The maximum predicted increase across all modelled receptors was noted at receptor AB.R2a where there was a 1.6 µg/m<sup>3</sup> increase.
- 8.7.9 For PM<sub>10</sub>, the following equation can be used to derive the number of days that the daily mean limit (of 50µg/m<sup>3</sup>) is likely to be exceeded:

$$\text{No.24 hour exceedances} = -18.5 + 0.00145 \times [\text{annual mean}]^3 + (206/(\text{annual mean}))$$

- 8.7.10 The highest annual mean PM<sub>10</sub> concentration in Table 8.14.2 in Appendix 8.14 (Volume 3) is 18.4 µg/m<sup>3</sup>, noted at receptor CD.R8a. Based on the formula above, this predicts 1.7 exceedance days, which is below the 35-days annual limit. Therefore, it can be assumed that no receptors would be exposed to any material impact from the short-term concentrations of PM<sub>10</sub>. The impacts at all receptors can be described as negligible (adverse).
- 8.7.11 Using the matrix in Table 8.2 and EIA magnitudes, the PM<sub>10</sub> effects at all receptors are anticipated to be negligible (adverse).

#### *PM<sub>2.5</sub>*

- 8.7.12 The modelled PM<sub>2.5</sub> concentrations in Table 8.14.3 in Appendix 8.14 (Volume 3) show that all of the modelled receptors are below the Stage 2 Post 2020 annual mean limit (20 µg/m<sup>3</sup>) for the 2026 Baseline and 2026 Baseline + Committed Developments + Proposed Construction Traffic scenario. The impacts at all receptors can be described as negligible (adverse).
- 8.7.13 The maximum predicted increase across all modelled receptors was noted at receptor AB.R2a where there was a 0.9 µg/m<sup>3</sup> increase.



- 8.7.14 Using the matrix in and EIA magnitudes, the PM<sub>2.5</sub> effects at all receptors are anticipated to be negligible (adverse).

#### Operational Phase Traffic Emissions – Human Receptors

- 8.7.15 The predicted effects of the operational traffic (in combination with relevant committed developments) on the annual mean concentrations of NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> in 2030, (for the previously specified human receptors, set out in Appendix 8.8; Volume 3) are set out in Appendix 8.15 in Table 8.15.1, Table 8.15.2, and Table 8.15.3 (Volume 3). These tables also set out the impact descriptors in line with the EPUK & IAQM (2017) Guidance, and are considered against the annual mean air quality standards set out in Table 8.3 at each receptor location in line with the assessment matrix set out in Table 8.2, and converted into EIA magnitudes in line with Table 8.4.

#### *NO<sub>2</sub>*

- 8.7.16 The modelled NO<sub>2</sub> concentrations in Table 8.15.1 in Appendix 8.15 (Volume 3) show that all of the modelled receptors comply with the NO<sub>2</sub> annual mean objective (40 µg/m<sup>3</sup>) for the 2030 Baseline and 2030 Baseline + Committed Developments + Proposed Development Traffic scenario.
- 8.7.17 Furthermore, as all the annual mean NO<sub>2</sub> concentrations are below 60 µg/m<sup>3</sup>, it is unlikely that the 1-hour mean NO<sub>2</sub> objective would be exceeded.
- 8.7.18 The maximum predicted increase across all modelled receptors was noted at receptor AB.R2a, where there was a 7.4 µg/m<sup>3</sup> increase. Receptors AB.R2a and AB.R2b noted a moderate (adverse) impact, while all the impacts at all remaining receptors can be described as negligible (adverse).
- 8.7.19 Using the matrix in Table 8.2 and EIA magnitudes, the NO<sub>2</sub> effects at all receptors are anticipated to be negligible (adverse) to moderate (adverse).

#### *PM<sub>10</sub>*

- 8.7.20 The modelled PM<sub>10</sub> concentrations in Table 8.15.2 in Appendix 8.15 (Volume 3) show that all of the modelled receptors comply with the PM<sub>10</sub> annual mean objective (40 µg/m<sup>3</sup>) for the 2030 Baseline and 2030 Baseline + Committed Developments + Proposed Development Traffic scenario.
- 8.7.21 The maximum predicted increase across all modelled receptors was noted at receptor AB.R2a where there was a 2.7 µg/m<sup>3</sup> increase.
- 8.7.22 For PM<sub>10</sub>, the following equation can be used to derive the number of days that the daily mean limit (of 50 µg/m<sup>3</sup>) is likely to be exceeded:
- $$\text{No.24 hour exceedances} = -18.5 + 0.00145 \times [\text{annual mean}]^3 + (206 / (\text{annual mean}))$$
- 8.7.23 The highest annual mean PM<sub>10</sub> concentration in Table 8.15.2 in Appendix 8.15 (Volume 3) is 18.6 µg/m<sup>3</sup>, noted at receptor CD.R8a. Based on the formula above, this predicts 1.9 exceedance days, which is below the 35-days annual limit. Therefore, it can be assumed that no receptors would be exposed to any material impact from the short-term concentrations of PM<sub>10</sub>. Receptors AB.R2a and AB.R2b noted a minor (adverse) impacts, while all the impacts at all remaining receptors can be described as negligible (adverse).
- 8.7.24 Using the matrix in Table 8.2 and EIA magnitudes, the PM<sub>10</sub> effects at all receptors are anticipated to be negligible (adverse) to minor (adverse).

*PM<sub>2.5</sub>*

- 8.7.25 The modelled PM<sub>2.5</sub> concentrations in Table 8.15.3 in Appendix 8.15 (Volume 3) show that all of the modelled receptors are below the Stage 2 Post 2020 annual mean limit (20 µg/m<sup>3</sup>) for the 2030 Baseline and 2030 Baseline + Committed Developments + Proposed Development Traffic scenario. Receptors AB.R2a and AB.R2b noted a minor (adverse) impacts, while all the impacts at all remaining receptors can be described as negligible (adverse).
- 8.7.26 The maximum predicted increase across all modelled receptors was noted at receptor AB.R2a where there was a 1.5 µg/m<sup>3</sup> increase.
- 8.7.27 Using the matrix in Table 8.2 and EIA magnitudes, the PM<sub>2.5</sub> effects at all receptors are anticipated to be negligible (adverse) to minor (adverse).

Operational Phase Traffic Emissions – Ecological Receptors

- 8.7.28 Site relevant critical levels/loads are set out in Table 8.5, with background concentrations/deposition rates set out in Table 8.12. To note, worst case critical levels/loads were used to inform the assessment.
- 8.7.29 The process contribution to annual mean NO<sub>x</sub> and NH<sub>3</sub> concentrations have been assessed as a percentage of the critical level. The modelled transect points, in line with the IAQM (2020) guidance (transects perpendicular to the road up to 200 m) are set out in Appendix 8.9 (Volume 3). The modelled NO<sub>x</sub> (annual mean and 24-hour mean) and NH<sub>3</sub> concentrations are set out in Appendix 8.15 (Volume 3).

*Critical Levels*

- 8.7.30 As set out in Table 8.16.1 in Appendix 8.16 (Volume 3), the highest annual mean NO<sub>x</sub> PC increase is 0.57 µg/m<sup>3</sup>, predicted 0 m from the edge of the SSSI. The increase at the modelled transect point exceeds the 1 % increase criteria of the long-term critical level; therefore, a further detailed assessment is required.
- 8.7.31 As set out in Table 8.16.2 in Appendix 8.16 (Volume 3), the highest 24-hour mean NO<sub>x</sub> PC increase is 0.23 µg/m<sup>3</sup>, predicted 0 m from the edge of the SSSI. The increase at the modelled transect point does not exceed the 10 % increase criteria of the short-term critical level, therefore a further detailed assessment is not required.
- 8.7.32 As set out in Table 8.16.3 in Appendix 8.16 (Volume 3), the highest annual mean NH<sub>3</sub> PC increase is 0.06 µg/m<sup>3</sup>, predicted 0 m from the edge of the SSSI. The modelled transect point exceeds the 1 % increase criteria of the long-term critical level (up to 200 m from the kerb of the road), therefore a further detailed assessment is required considering critical load.

*Critical Load*

- 8.7.33 As the screening criteria has been exceeded at a number of transect points, the nitrogen and acid deposition has been calculated.
- 8.7.34 As set out in Table 8.16.4 in Appendix 8.16 (Volume 3), the change in nitrogen deposition is above the 1 % threshold for a distance up to ~120 m from the edge of the SSSI. This indicates these areas require evaluation by a qualified ecologist.
- 8.7.35 As set out in Table 8.16.5 in Appendix 8.16 (Volume 3), the change in acid deposition is above the 1 % threshold for a distance up to ~90 m from the edge of the SSSI. This indicates these areas require evaluation by a qualified ecologist.



- 8.7.36 A further assessment considering potential air quality effects upon sensitive ecological sites is set out in Chapter 11: Biodiversity.

#### **Inter-Related Effects**

- 8.7.37 One of the primary focuses of this ES Chapter is the air quality impacts arising from increased traffic on the local highway network on nearby human and ecological receptors. These effects are therefore inherently considered throughout this ES Chapter.

## **8.8 Statement of Significance**

### **Construction Phase**

#### *Dust Risk Impacts*

- 8.8.1 With the implementation of mitigation measures (as set out in Appendix 8.13; Volume 3), the Proposed Development is considered to have a short-term, adverse effect on nearby high sensitivity receptors, which is considered likely to be not significant under the EIA regulations.

#### *Traffic Impacts*

- 8.8.2 With the implementation of mitigation measures (as set out in Appendix 8.13; Volume 3), the Proposed Development is considered to have a short-term, adverse effect on nearby high sensitivity receptors, which is considered likely to be not significant under the EIA regulations.

#### *Conclusion*

- 8.8.3 The impacts associated with the construction phase of the Proposed Development are considered likely to be not significant under the EIA regulations

### **Operational Phase**

#### *Traffic Emissions – Human Receptors*

- 8.8.4 When evaluating significance of the traffic impacts of the Proposed Development, particular consideration has been given towards the methods stated in the EPUK & IAQM (2017) guidance set out in Paragraph 8.3.38 and Paragraph 8.3.39. It is noted that two residential receptors (AB.R2a and AB.R2b) are exposed to a minor (adverse) impact when considering the Proposed Development in isolation, and a moderate (adverse) impact when considering the cumulative impact of relevant committed developments. Furthermore, the receptors are predict to comply with the annual mean standards for NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>, as set out in Table 8.3.

- 8.8.5 Based on this, in accordance with the IAQM & EPUK (2017) guidance and professional judgement, the Proposed Development is considered to have a long term, adverse impact on nearby high sensitivity receptors, which is considered likely to be not significant under the EIA regulations.

#### *Traffic Emissions – Ecological Receptors*

- 8.8.6 As alluded to previously in this Section, in Paragraph 8.3.29 and Paragraph 8.3.46, the judgment of significance on ecological receptors should be made by a qualified ecologist and



is set out in Chapter 11: Biodiversity.

*Conclusion*

- 8.8.7 The impacts associated with the operational phase of the Proposed Development in regards to air quality are considered likely to be not significant under the EIA regulations.

**Mitigation, Enhancement and Residual Effects**

- 8.8.8 A summary of potential environmental effects, mitigation and monitoring is provided in Table 8.15.
- 8.8.9 Table 8.15 summarises all mitigation in relation to air quality, how these measures are secured, the party responsible for the implementation of the measure, when the measure would be delivered and any mechanisms to deliver the measure.



Table 8.15: Air quality summary

Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Residual effect significance	Mitigation/ Enhancement Measures	Securing mechanism	Residual Effects
<b>Construction</b>											
Human Receptors within 250 m of the Site	Exposure to elevated pollutant Concentrations (PM <sub>10</sub> )	Temporary and direct	Not applicable	Not applicable	Local	Cannot be determined pre-mitigation	Cannot be determined pre-mitigation	Not significant	Dust Risk Mitigation Measures/ CEMP	Planning Condition	Negligible (not significant)
Human Receptors on routes impacted by construction traffic	Exposure to elevated pollutant concentrations (NO <sub>2</sub> , PM <sub>10</sub> and PM <sub>2.5</sub> ) on local highway network	Temporary and direct	High	Negligible	Local	Negligible	Not significant	Not significant	CEMP/ Construction Routing Plan	Adherence to CEMP/ Construction Routing Plan	Negligible (Not Significant)
<b>Operation</b>											
Human Receptors on routes impacted by operational traffic	Exposure to elevated pollutant concentrations (NO <sub>2</sub> , PM <sub>10</sub> and PM <sub>2.5</sub> ) on local highway network	Permanent and direct	High	Minor (adverse)/ Negligible	Regional	Minor (adverse)/ Negligible	Not Significant	Not Significant	Framework Travel Plan/ EV Charging	Secured during Planning Process	Minor (adverse)/ Negligible (Not Significant)





Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Residual effect significance	Mitigation/ Enhancement Measures	Securing mechanism	Residual Effects
Ecological Receptors on routes impacted by operational traffic	Exposure to elevated pollutant concentrations on local highway network	Permanent and direct	High	Not applicable	United Kingdom	Not applicable	Not applicable	Not applicable	Framework Travel Plan/ EV Charging	Secured during Planning Process	Not applicable
<b>Construction (Cumulative Impacts)</b>											
Human Receptors on routes impacted by operational traffic	Exposure to elevated pollutant concentrations (NO <sub>2</sub> , PM <sub>10</sub> and PM <sub>2.5</sub> ) on local highway network	Permanent and direct	High	Moderate (adverse)/ Negligible	Regional	Moderate (adverse)/ Negligible	Not Significant	Not Significant	Framework Travel Plan/ EV Charging	Secured during Planning Process	Moderate (adverse)/ Negligible (Not Significant)
<b>Operation (Cumulative Impacts)</b>											
Human Receptors on routes impacted by operational traffic	Exposure to elevated pollutant concentrations (NO <sub>2</sub> , PM <sub>10</sub> and PM <sub>2.5</sub> ) on local highway network	Permanent and direct	High	Moderate (adverse)/ Negligible	Regional	Moderate (adverse)/ Negligible	Not Significant	Not Significant	Framework Travel Plan/ EV Charging	Secured during Planning Process	Moderate (adverse)/ Negligible (Not Significant)



Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Residual effect significance	Mitigation/ Enhancement Measures	Securing mechanism	Residual Effects
Ecological Receptors on routes impacted by operational traffic	Exposure to elevated pollutant concentrations on local highway network	Permanent and direct	High	Not applicable	United Kingdom	Not applicable	Not applicable	Not applicable	Framework Travel Plan/ EV Charging	Secured during Planning Process	Not applicable
<p>Notes</p> <p>Only enter a value where a sensitivity v magnitude effects has been used – otherwise 'Not Applicable'</p> <p>Enter either: International, European, United Kingdom, Regional, County, Borough/District or Local</p> <p>Enter either: Major/Moderate/Minor/Negligible AND state whether Beneficial or Adverse (unless negligible)</p>											



## 9. Noise and Vibration

### 9.1 Introduction

- 9.1.1 This Chapter of the ES presents the findings of an EIA completed in relation to the construction and operational impacts of the Proposed Development on Noise and Vibration.
- 9.1.2 This Chapter was undertaken by Hepworth Acoustics Ltd, which is an independent acoustics consultancy, a member of the Association of Noise Consultants and with all technical staff being full members of the Institute of Acoustics, hence with suitable competency and experience to carry out the relevant work (Appendix 1.2, Volume 3).
- 9.1.3 This Chapter summarises information from supporting studies which are described herein and included within Appendices 9.1, 9.2 and 9.3. This includes a review and assessment of existing and future road traffic flows on the surrounding road network, a baseline noise survey and assessment and prevailing levels, and an acoustic prediction and modelling exercise to determine future noise attributable to the Proposed Development.

### 9.2 Legislative and Planning Framework

#### Relevant Legislation

- 9.2.1 The principal legislative and planning context in relation to the assessment of the effects of the Proposed Development on Noise and Vibration is presented below.

#### Relevant Planning Policy

##### Local Policy

- 9.2.2 Local planning policy of relevance to Noise and Vibration and pertinent to the Proposed Development includes Policy DM10 of the Hinckley and Bosworth Borough Council document Site Allocations and Development Management Policies DPD<sup>50</sup>. Policy DM10 Development and Design states that:

*"Developments will be permitted providing that the following requirements are met: a) It would not have a significant adverse effect on the privacy and amenity of nearby residents and occupiers of adjacent buildings, including matters of ... noise [and] vibration ..."*

##### National Policy

- 9.2.3 National planning policy of relevance to Noise and Vibration and pertinent to the Proposed Development includes:
- The National Planning Policy Framework (NPPF)<sup>51</sup>;
  - Planning Practice Guidance<sup>52</sup>; and

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<sup>50</sup> Hinckley and Bosworth Borough Council document Site Allocations and Development Management Policies DPD (July 2016)

<sup>51</sup> Department for Levelling Up, Housing & Communities (December 2024) National Planning Policy Framework

<sup>52</sup> <https://www.gov.uk/government/collections/planning-practice-guidance>



- The Noise Policy Statement for England (NPSE) 2010<sup>53</sup>.
- 9.2.4 The NPPF sets out the Government's planning policies for England and how these are expected to be applied. It also sets out the Government's requirements for the planning system and provides a framework within which local communities and Councils can produce their own distinctive local and neighbourhood plans reflecting the needs and priorities of their communities.
- 9.2.5 Reference to noise is made at Paragraph 187, which states that:
- "Planning policies and decisions should contribute to and enhance the natural and local environment by: ... (e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of ... noise pollution ... "*
- 9.2.6 Noise is also referred to in Paragraph 198 of the NPPF which states that:
- "Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should: a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development - and avoid noise giving rise to significant adverse impacts on health and the quality of life'..."*
- 9.2.7 The Planning Practice Guidance provides supporting guidance to enable the methodological interpretation of the NPPF. The Planning Practice Guidance on noise includes 'the noise exposure hierarchy' which offers 'examples of outcomes' relevant to the 'No Observed Effect Level' (NOEL), 'Lowest Observed Adverse Effect Level' (LOEL) and 'Significant Observed Adverse Effect Level' (SOEL) described in the Noise Policy Statement for England. These outcomes are in descriptive form. There are no numerical definitions of the NOEL, LOEL and SOEL and no reference to the further research that was identified as necessary in the Noise Policy Statement for England in 2010.
- 9.2.8 The NPSE, which is referred to in the NPPF, includes three aims:
- i. Avoid significant adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.
  - i. Mitigate and minimise adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.
  - ii. Where possible, contribute to the improvement of health and quality of life through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.
- 9.2.9 The Noise Policy Statement for England contains little detail on assessment methodologies and specific parameters at which the varying observed effect levels would occur in the context of a residential development.

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<sup>53</sup> Department for Environment, Food and Rural Affairs (March 2010) The Noise Policy Statement for England



## 9.3 Assessment Approach

### Consultation

- 9.3.1 Consultation and engagement have informed the Noise and Vibration assessment. Table 9.1 outlines engagement that has been undertaken to inform this assessment.

**Table 9.1: Key consultation information**

Consultee	Points raised	Response
EIA Scoping	Baseline noise monitoring is proposed to evaluate prevailing noise climate at locations representative of nearby noise and vibration sensitive receptors.  Potential construction phase effects to be evaluated with reference to British Standard 5228:2009 +A1:2014.  Potential operation phase effects to be evaluated with reference to British Standard 4142: 2014 +A1:2019, British Standard 8233: 2014, IEMA <i>Guidelines for Environmental Noise Impact Assessment</i> 2014 and the Department of Transport document <i>Calculation of Road Traffic Noise</i> 1988.	The scoping report identifies the relevant policy and legislation relating to the Noise and Vibration. The Council agrees that this topic should be included and assessed within the ES supporting any future application.  Hinkley and Bosworth Borough Council Environmental Health comments:  The approach is acceptable. With regard to noise though should be given to any other surrounding properties as focusing on the closest receptors may not mean the receptors most likely to be impacted.
Consultation with Environmental Health Officer at Hinckley & Bosworth Borough Council	Telephone conversation and follow-up summary email 15 April 2025 (Appendix 9.1; Volume 3):  To arrive at a suitable and commensurate set of criteria for mobile noise sources during operation, British Standard 4142: 2014 +A1:2019 will be referenced, but also will draw on contextual factors referencing IEMA <i>Guidelines for Environmental Noise Impact Assessment</i> and British Standard 8233: 2014	No further response.

### Methodology

- 9.3.2 Chapter 2 of the ES describes the general approach to the assessment. This Section of the report provides specific details of the Noise and Vibration methodology applied to the assessment of the Proposed Development.
- 9.3.3 In addition to the legislation and national and local planning policies outlined in Section 9.2, this assessment has also been carried out in accordance with the following professional standards and guidance.

Calculation of Road Traffic Noise<sup>54</sup>

- 9.3.4 Calculation of Road Traffic Noise (CTRN) describes a formal procedure for calculating traffic noise for proposed new or altered highways. The procedure takes into account a number of factors including the volume of traffic, the speed of traffic, and the composition of the traffic flow. For environmental assessment purposes it is also used as a basis for undertaking comparative traffic noise calculations for existing roads i.e. to compare the 'with development' and 'without development' scenarios.

Highways England Design Manual for Roads and Bridges<sup>55</sup>

- 9.3.5 Highways England Design Manual for Roads and Bridges (DMRB) (2020) sets out the requirements for assessing and reporting the effects of highways noise and vibration from construction, operation and maintenance projects. For environmental assessment purposes, it also provides a basis for the determination of the significance of the effect depending on the magnitude of change of road traffic noise levels as predicted using the methodology set out in CRTN.

Institute of Environmental Management & Assessment Guidelines for Environmental Noise Impact Assessment<sup>56</sup>

- 9.3.6 The Institute of Environmental Management & Assessment (IEMA) (2014) represents the most relevant 'best practice' guidance for undertaking noise studies for EIA purposes. It includes examples of tables of scales of significance of noise change, but these are only examples, and it is stated that it is necessary for the individual assessor to define appropriate scales of significance for the particular type of noise/development being evaluated.

British Standard 8233: 2014 Guidance on Sound Insulation and Noise Reduction for Buildings<sup>57</sup>

- 9.3.7 British Standard (BS) 8233 recommends appropriate acoustic design criteria for different types of buildings including residential buildings and includes useful guidance on the sound insulation of buildings against external sources. However, BS 8233 does not provide guidance on assessing the effects of changes in the external noise levels to occupants of an existing building.
- 9.3.8 The guidance provided in BS 8233 includes appropriate internal and external noise level criteria which are applicable to dwellings for steady external noise sources. It is stated that it is desirable that the internal ambient noise level does not exceed the following criteria set out in Table 9.2.

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<sup>54</sup> Department of Transport Memorandum Calculation of Road Traffic Noise (1988)

<sup>55</sup> Highways England Design Manual for Roads and Bridges (2020)

<sup>56</sup> Institute of Environmental Management & Assessment (IEMA) (2014) Guidelines for environmental noise impact assessment

<sup>57</sup> British Standards Institute (2014) British Standard BS8233: 2014 Guidance on sound insulation and noise reduction for buildings



Table 9.2: BS 8233 internal noise criteria

Activity	Location	Period	
		Daytime (0700-2300hrs)	Night-time (2300-0700hrs)
Resting	Living Room	35dB $L_{Aeq,16hrs}$	-
Dining	Dining Room/Area	40dB $L_{Aeq,16hrs}$	-
Sleeping (daytime resting)	Bedroom	35dB $L_{Aeq,16hrs}$	30dB $L_{Aeq,8hrs}$

9.3.9 Whilst BS 8233 provides guidance on 'peak' noise in terms of  $L_{Amax}$  for the assessment of regular individual noise events that can cause sleep disturbance during the night-time, a specific criterion is not stipulated.

9.3.10 With respect to external amenity space such as gardens and patios, it is desirable that the noise level does not exceed 50 dB  $L_{Aeq,T}$ , with an upper guideline value of 55 dB  $L_{Aeq,T}$  which is considered acceptable in noisier environments.

British Standard 4142: 2014 +A1:2019 Methods for Rating and Assessing Industrial and Commercial sound (BS 4142)<sup>58</sup>

9.3.11 BS 4142 provides methods for rating and assessing sound of an industrial and/or commercial nature. BS 4142 can be used to assess the potential impacts of existing industrial/commercial type noise upon new noise-sensitive properties, as well as the potential impacts of new industrial/commercial type noise upon existing/proposed noise-sensitive properties.

9.3.12 BS 4142 is not intended to be applied to the assessment of indoor sound levels. However, the results may provide an indication of the likely effects of sound on people who might be inside a dwelling or premises used for residential purposes upon which sound is incident.

9.3.13 Where appropriate, the specific sound level of the source ( $L_{Aeq,T}$ ) is corrected, by the application of one or more corrections for acoustic features to give a 'rating' level ( $L_{Ar,T}$ ). BS 4142 effectively compares and rates the difference between the rating level of the sound and the prevailing background sound level ( $L_{A90,T}$ ).

9.3.14 BS 4142 sets out a method for deriving an 'initial estimate of the impact' of the operation, by comparison of the rating level with the background sound level.

9.3.15 Further to this 'initial assessment', BS 4142 places significant weight upon the context of the operational noise level and the residual noise climate, stating: *"The significance of sound of an industrial and/or commercial nature depends upon both the margin by which the rating level of the specific sound source exceeds the background sound level and the context in which the sound occurs. An effective assessment cannot be conducted without an understanding of the reason(s) for the assessment and the context in which the sound occurs/will occur. When making assessments and arriving at decisions, therefore, it is essential to place the sound in context."*

<sup>58</sup> British Standards Institute (2019) British Standard BS4142: 2014 +A1:2019 Methods for rating and assessing industrial and commercial sound



British Standard 5228: 2009 +A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites (BS 5228)<sup>59</sup>

- 9.3.16 BS 5228 contains useful guidance on the measurement, prediction and control of construction noise and vibration. It refers to the need for the protection against noise and vibration of people living and working in the vicinity of, and those working on, construction and open sites. In particular it describes practical measures to minimise the impact of construction noise and vibration.

#### **Study Area**

- 9.3.17 The study areas used for the assessment vary according to the potential effects being considered.
- 9.3.18 The study areas used for the assessment of construction activity noise and vibration and operational noise from the completed development are those representative of the nearest existing residences around the perimeter of the Site, as identified in Figure 9.1 (Volume 2) and described as follows:
- receptor 1 – to the west, nearest residence on Battram Road;
  - receptor 2 – to the southwest, nearest residence at Wood Road;
  - receptor 3 – to the southeast, nearest residence at Howden Close; and
  - receptor 4 – to the east, nearest residence at Station Road.
- 9.3.19 The study areas for assessing development-generated traffic noise are effectively any noise sensitive receptors exposed to existing road traffic noise from the following key links on the surrounding highway network, including:
- M1 (slips);
  - A447;
  - A50;
  - A511;
  - B585;
  - B591;
  - Bagworth Road;
  - Beveridge Lane;
  - Ellistown Terrace Road;
  - Regs Way;
  - Station Road;
  - Victoria Road;

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<sup>59</sup> British Standards Institute (2008) British Standard BS6472-1: 2008 Guide to evaluation of human exposure to vibration in buildings. Part 1: Vibration sources other than blasting





- West Lane;
- Whitwick Road; and
- Wood Road.

### Temporal Scope of Assessment

- 9.3.20 In the context of the Proposed Development, short to medium term (temporary) effects are generally considered to be those associated with the construction phase, and long term (permanent) effects are generally those associated with the operation phase.

### Assessment Methodology

#### Construction – Noise

- 9.3.21 The likely significant effects of noise from construction and demolition works may be assessed in accordance with the 'ABC Method' of BS 5228. The ABC method defines category threshold values which are determined by the time of day and existing ambient noise levels in the vicinity of existing noise sensitive receptors (rounded to the nearest 5dB). Noise likely to be generated by construction and demolition activities, known as the 'total noise level', is then compared with the 'threshold value'. If the total noise level exceeds the 'threshold value', a significant effect is deemed likely to occur.
- 9.3.22 Table 9.3 summarises the significance effect threshold values at noise sensitive receptors, recommended by BS 5228.

**Table 9.3: Thresholds of significant effects in accordance with the ABC Method of BS 5228**

Activity	Threshold Value, dB $L_{Aeq,T}$		
	Category A *1	Category B *2	Category C *3
Weekday Daytime (0700 – 1900hrs) and Saturdays (0700 – 1300hrs)	65	70	75
Note: *1 Category A: Threshold values to use when ambient noise levels (when rounded to the nearest 5dB) are less than this value. *2 Category B: Threshold values to use when ambient noise levels (when rounded to the nearest 5dB) are the same as Category A values. *3 Category C: Threshold values to use when ambient noise levels (when rounded to the nearest 5dB) are more than this value.			

- 9.3.23 On this basis, to evaluate the magnitude of impact of noise from on site construction activities, the criteria included in Table 9.4 is used, based on the ABC method presented in BS 5228.

**Table 9.4: Scale for assessing magnitude of impacts from construction noise**

Magnitude of Impacts	Construction Noise Level at Receptor, $L_{Aeq,T}$
Large	Threshold value exceeded by more than 10 dB
Medium	Threshold value exceeded by 5 – 10 dB
Small	Threshold value exceeded by 1 – 4 dB
Negligible	Threshold value not exceeded



- 9.3.24 Notwithstanding the above guidelines, the assessment of noise impacts of the temporary construction phase of the development has been necessarily qualitative rather than quantitative. This is because at this stage (i.e. planning application stage) there is no detailed information available regarding the type of construction plant, operations, programme, etc. The assessment has therefore focussed on the need to mitigate construction noise as far as is reasonably practicable by implementing appropriate measures in accordance with the 'best practice' guidance that is set out in BS 5228.

#### Construction – Vibration

- 9.3.25 Regarding potential construction vibration effects, damage to buildings associated solely with ground borne vibration is uncommon, and although vibration may be noticeable, there will be little evidence to suggest that cosmetic damage can occur, such as a crack in plaster, unless the magnitude of the vibration is extremely high.
- 9.3.26 Where ground borne vibration is of a relatively continuous nature, there is a greater likelihood of structural damage occurring, compared to transient vibration; for example, caused by transiting vehicles or piling. Generally, the main source of vibration during construction is from any required piling.
- 9.3.27 As stated in BS 5228, the threshold of vibration perception for humans is typically in the Peak Particle Velocity (PPV) range of 0.14 mms<sup>-1</sup> to 0.3 mm/s, which forms the basis of the recommend maximum permitted vibration levels of 1 mm/s PPV within occupied dwellings.
- 9.3.28 BS 5228 also sets out the distances (based on historical field measurements) at which certain activities could give rise to a just perceptible level of vibration and have therefore been used in this assessment. These distances are presented in Table 9.5.

**Table 9.5: Typical distances at which vibration may just be perceptible**

Construction Activity	Distance (m)
Excavation	10 – 15
Heavy Vehicles (e.g. dump trucks)	5 – 10
Hydraulic Breaker	15 – 20
Rotary Bored Piling	20 – 30

- 9.3.29 To evaluate the magnitude of impact of construction vibration from plant and machinery, the criteria included in Table 9.6 is used, based on free-field vibration in the ground outside of a building.

**Table 9.6: Scale for assessing magnitude of impacts from construction vibration**

Magnitude of Impact	Free-field vibration (PPV mm/s)	People in Buildings	Buildings
Large	≥10.0	Vibration is likely to be intolerable for any more than a brief exposure	-
Medium	5.0 – 9.9	-	Continuous vibration at very low frequency may cause cosmetic damage



Magnitude of Impact	Free-field vibration (PPV mm/s)	People in Buildings	Buildings
Small	1.0 – 4.9	1 mm/s in may cause complaint but can be tolerated with prior warning	-
Negligible	<1.0	Vibration might just be perceptible	-

#### Operation – Traffic Noise Generated by the Development

- 9.3.30 The assessment of potential development generated road traffic noise impacts and effects associated with the Proposed Development has been carried out in accordance with DMRB, which provides guidance on defining the magnitude of noise impacts associated with changes in road traffic flows on existing and proposed noise sensitive receptors. This has considered the potential long-term increases in noise.
- 9.3.31 Changes in traffic noise resulting from changes in traffic flow on existing roads have been predicted on the basis of the calculation procedure set out in CRTN.
- 9.3.32 Potential long term traffic noise impacts resulting from operation of the completed development have been assessed using a comparative approach, taking full account of the impact of change in proportion of Heavy Goods Vehicles (HGV) and speed limits on relevant links, as well as overall traffic flows.
- 9.3.33 This involves investigating the difference between calculated traffic noise levels for the 'without development' and 'with development' scenarios, based upon the anticipated future traffic flows.
- 9.3.34 To evaluate the magnitude of impact of the change in road traffic noise levels due to long-term development generated traffic, the criteria included in Table 9.7 is used, based on the DMRB guidance document.

**Table 9.7: Scale for assessing magnitude of impact from development generated traffic noise**

Magnitude of Impact	Increase in Road Traffic Noise Level in dB $L_{A10,18hr}$
Large	> 10.0
Medium	5.0 – 10.0
Small	3.0 – 4.9
Negligible	<3.0

#### Operation – Fixed Plant Noise Emissions at the Proposed Development

- 9.3.35 The likely effects of potential fixed plant noise emissions have been assessed with reference to BS 4142.
- 9.3.36 BS 4142 states that the following may provide an 'initial estimate of the impact' of the operation by comparing the rating level with the background sound level:
- typically, the greater this difference, the greater the magnitude of impact;
  - a difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context;



- a difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context; and
- the lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.

9.3.37 To evaluate the magnitude of impact of fixed plant noise emissions, the criteria included in Table 9.8 is used, based on the BS 4142 guidelines.

**Table 9.8: Scale for assessing magnitude of impact from fixed plant noise emissions**

Magnitude of Impact	Noise Level at Receptor ( $L_{Ar}$ )
Large	>10 dB above existing $L_{A90}$ background noise level
Medium	Up to 10 dB above existing $L_{A90}$ background noise level
Small	Equal to or up to 10 dB below existing $L_{A90}$ background noise level
Negligible	>10 dB below existing $L_{A90}$ background noise level

#### Operation – Mobile Noise Sources at the Proposed Development

- 9.3.38 To assess the likely effects of noise from mobile noise sources, i.e. primarily HGVs, as well as externally operating fork-lift trucks (FLT), it is noted that BS 4142 includes mobile sources as being among those to which the Standard applies. However, it is considered that a set of criteria drawing on the 'contextual' elements of the provisions of BS 4142 is appropriate in this case due to the nature of the noise from the mobile noise sources, which is expected to be perceived at receptors, in terms of the noise characteristics, as comparable to general transportation noise.
- 9.3.39 As such adopting a magnitude of impact that is proportionate to prevailing ambient/residual  $L_{Aeq,T}$  noise levels is considered appropriate.
- 9.3.40 This also aligns with the IEMA Guidelines in term of adopting scales of significance of noise change, noting that the guidelines place emphasis on the need for the individual assessor to define appropriate scales of significance for the particular type of noise/development being evaluated.
- 9.3.41 As well as consideration of noise in 'relative' terms (i.e. by correlation to existing ambient noise and hence resulting potential increases), it is also necessary to be mindful of 'absolute' noise levels attributable to the Proposed Development. For this the provisions of BS 8233 are relevant and have been taken into account. Specifically, noting that BS 8233 cites an indicative sound reduction *via* an open window of 15dBA (outside to inside), external noise levels that are 15dBA higher than the BS 8233 guideline values set out in Table 9.2 should be taken into account.
- 9.3.42 Accordingly, to evaluate the magnitude of impact of mobile noise sources, the criteria included in Table 9.9 is used.



Table 9.9: Scale for assessing magnitude of impact from mobile noise source activity

Magnitude of Impact	Noise Level at Receptor ( $L_{Aeq,1hr}$ )
Large	>10 dB above existing $L_{Aeq}$ ambient noise level and 55dB $L_{Aeq}$ or above
Medium	Up to 10 dB above existing $L_{Aeq}$ ambient noise level, and below 55dB $L_{Aeq}$
Small	Equal to or up to 10 dB below existing $L_{Aeq}$ ambient noise level, and below 45dB $L_{Aeq}$
Negligible	>10 dB below existing $L_{Aeq}$ ambient noise level and/or below 35dB $L_{Aeq}$

### Assessment of Significance

- 9.3.43 To arrive at a judgement on the significance of effect, the sensitivity of the receptors is taken into account. Within this assessment, all specified receptors are residences and hence considered to be of high sensitivity.
- 9.3.44 Table 9.10 shows the relationship between sensitivity and magnitude of impact to achieve significance of effect.

Table 9.10: Significance of effect matrix

Sensitivity of Receptor	Magnitude of Impact				
	No Change	Negligible	Small	Medium	Large
High	Neutral	Slight	Slight or Moderate	Moderate or Major	Major or Very Major

- 9.3.45 In terms of significance of effect (in EIA terms), the threshold between insignificant and significant lies between 'moderate' and 'major' as identified within Table 9.10. Moderate adverse/beneficial effects may be noticeable and intrusive but may cause a small change in behaviour. Whereas major adverse/beneficial effects are likely to be noticeable, disruptive and might cause a material change in behaviour or attitude.

### Assumptions and Limitations

- 9.3.46 Notwithstanding a quantitative approach to determination of guideline noise and vibration limits during construction, the assessment of construction noise and vibrations has by necessity been qualitative rather than quantitative at this stage. More rigorous calculation may be completed at a later stage based on a Detailed CEMP.
- 9.3.47 The noise impact and effects assessment of the proposed operational traffic flows are based on the projected traffic flows associated with the Proposed Development and other growth which may differ from the final traffic flow scenarios.
- 9.3.48 There are inevitable limitations in the measurement of baseline noise levels. Uncertainties in the assessment of baseline noise levels have been minimised by way of an extended monitoring period in dry and calm weather conditions. Winds during the monitoring were light and of a generally south-westerly direction, which in this location would be expected to reflect the lower end of the range of normal baseline noise levels. Noise measurements were



made using fully calibrated Class 1 integrating sound level meters. The baseline data utilised in the assessment has focussed on the night-time periods and has excluded anomalous noise events. The noise measurement locations were selected to be representative of the noise levels at the closest point of existing and proposed noise sensitive receptors.

- 9.3.49 There are also inevitable limitations in the prediction of operational noise levels from the Proposed Development. Uncertainties in the assessment of operational noise levels have been minimised by considering only the Proposed Development at full operational capacity, determining noise levels at 4.0 m above local ground, representing first floor level at receptors, as applies to the night-time situation. Corresponding noise levels at ground floor level would be lower. Predictions have been carried out using the proprietary CadnaA software, taking into account of topographical and ground factors as well as reflection and screening effects. Actual noise levels at Receptors may vary due to wind conditions, however modelling has been carried out on the basis of downwind conditions for all receptors. The noise modelling has been based on real-world measured reference source noise levels.

#### **Scoped Out**

- 9.3.50 Vibration during operation of the Proposed Development has been scoped out due to no source of significant vibration being proposed or identified as existing in the surrounds of the Site. Therefore, this is not discussed further in this chapter.

## **9.4 Baseline Conditions**

### **Site Context**

- 9.4.1 The Proposed Development is located in proximity to the Applicant's existing site at Victoria Road, Ellistown. The existing site is located in relatively close proximity to existing residences at Victoria Road and Ellistown Terrace Road. It is understood that no noise complaints have been received from nearby residences with respect to the existing operation.
- 9.4.2 Further to this, it is noted that a new large distribution centre for Aldi food stores is in the advanced stages of construction a short distance further southwest along Wood Road (i.e. the B585, which bounds the Proposed Development to the north and west). This pertains to Hinckley and Bosworth Borough Council planning application reference 20/00224/FUL.
- 9.4.3 Accounting for the existing Victoria Road site and the Aldi scheme, the nature of the Proposed Development at the Site is one that is already established in the immediate vicinity. Also, the local area is at the southwest fringes of an existing proliferation of similar storage and distribution type facilities at Bardon Hill.
- 9.4.4 There is also an existing noise-generating commercial area including a recycling operation to the southwest of the Site.
- 9.4.5 Current and future baseline conditions in terms of road traffic flows for key links on the surrounding highway network have been provided by DTA Transportation Limited. The current baseline data is based on the year 2024, whereas future baseline data is for the assessment year 2030. This includes future baseline data with and without incorporation of flows attributable to the new Aldi distribution centre. The traffic data, with identification of road links considered, is provided in Appendix 9.2 (Volume 3).



### Baseline Survey Information

- 9.4.6 Current representative baseline noise conditions at nearby receptors have been established by way of a noise monitoring exercise at locations suitably representative of Receptors 1-4 as identified in Figure 9.1 (Volume 2).
- 9.4.7 The noise monitoring was undertaken at two locations, also as identified in Figure 9.1 (Volume 2) and described as follows:
- monitoring Location 1 – Representative of Receptors 1 and 2; and
  - monitoring Location 2 – Representative of Receptors 3 and 4.
- 9.4.8 At both locations, the monitoring was carried out in sequential 15-minute samples over a continuous 96-hour period commencing at 1400hrs on Friday 28 February 2025, and hence encompassed a number of weekday periods and a full weekend period.
- 9.4.9 Full results and details of the baseline noise survey are set out in Appendix 9.3 (Volume 3).
- 9.4.10 The key findings of the baseline noise monitoring are summarised in Table 9.11. The Proposed Development will operate on a 24-hour basis for most of the week. However, with the exception of some very minimal and sporadic activity, the main operation will be closed over the period 1300hrs Saturday until 0500hrs Monday. Therefore, the summary in Table 9.11 is based on an analysis of the baseline monitoring data excluding those closed periods.

**Table 9.11: Key findings of baseline noise monitoring**

Measurement Index		Daytime 0700-2300hrs				Night-time 2300-0700hrs	
		Day 0700-1900hrs		Evening 1900-2300hrs			
		Location 1	Location 2	Location 1	Location 2	Location 1	Location 2
dB L <sub>Aeq,T</sub> 'residual'	Range	44-57	43-53	40-47	39-48	33-53	32-52
	Logarithmic Average	52	49	44	46	44	44
dB L <sub>A90,T</sub> 'residual'	Range	36-54	37-50	32-40	29-40	28-49	25-48
	Mode	52	43	37	39	31	28
	Mean	46	43	36	36	33	31

- 9.4.11 The measured noise levels at the monitoring locations were due primarily to road traffic noise from the surrounding highway network. Some commercial-type noise from the recycling operation to the southwest of the Site was also noted over some daytime periods.
- 9.4.12 In the case of the night-time data, following review of the audio recordings taken concurrently with the noise monitoring, a small number of 15-minute measurement samples from the night-time periods have been removed from the analysis due to anomalously higher noise levels from birdsong close to the microphone.



## 9.5 Assessment of Effects

### Construction

- 9.5.1 Based on the ABC method presented in BS 5228 and referencing the impact magnitude scale for construction noise in Table 9.4, it is noted firstly that the baseline noise monitoring has determined that existing ambient noise levels at the residential receptors around the Site, are well below 65dB  $L_{Aeq,T}$  during the daytime.
- 9.5.2 Therefore, temporary construction noise impacts will be negligible when the construction noise is not in excess of this level at receptors, will be small when up to about 69dB  $L_{Aeq,T}$ , medium when up to about 75dB  $L_{Aeq,T}$ , and large when in excess of 75dB  $L_{Aeq,T}$ .
- 9.5.3 Construction activities are temporary, and the level of noise generated will vary considerably throughout the duration of the works. Depending on the proximity of construction works to residential receptors, construction noise will have the potential to give rise to a short-term effect of varying significance, particularly if suitable mitigation measures are not implemented.
- 9.5.4 Although there are techniques available to predict the likely noise effects from construction works, such as those contained within BS 5228, these are necessarily based on detailed information, including the type and number of plant being used, their location and the length of time they are in operation in each area. There is no detailed information available at this stage of the design process regarding the specific construction plant, techniques and programme.
- 9.5.5 Notwithstanding the above, based on experience of similar construction projects, it is anticipated that, without appropriate mitigation, construction noise may give rise to a short-term adverse noise effect of moderate significance during periods where particularly noisy activity is taking place at the closest points to nearby noise-sensitive properties. For the majority of the time, however, it is anticipated that any adverse effect will be of minor or negligible significance.
- 9.5.6 Construction noise may be controlled to acceptable levels by implementation of appropriate best practice noise mitigating measures accounting for the general recommendations of the relevant guidance of BS 5288 in reducing construction noise.
- 9.5.7 Construction noise may also be controlled by way of planning conditions attached to any approval notice applying limits on overall noise levels and/or hours of work, or more usually by stipulation of a requirement for noise to be considered within a Detailed CEMP.
- 9.5.8 Considering vibration from construction activities, nearby residential receptors are all located at greater than 30 m from any areas where appreciable levels of vibration area anticipated. As such, construction works are expected to result in a negligible impact in terms of vibration at residential receptors.
- 9.5.9 Nonetheless, some attention to potential construction vibration effects may be necessary should there be a need for rotary bored piling or use of a hydraulic breaker at the closest part of the Site to the existing commercial site to the southwest, as a small impact may be possible resulting in a temporary adverse effect of slight or moderate significance.
- 9.5.10 Again, in tandem with noise, construction vibration may be controlled to acceptable levels by implementation of appropriate best practice vibration mitigating measures accounting for the general recommendations of the relevant guidance of BS 5288 in reducing construction noise,





as well by stipulation of a requirement for vibration to be considered within the Detailed CEMP.

## Operation

### Operation – Noise Generated by Operations at the Proposed Development

- 9.5.11 The potential permanent effects of any additional traffic noise as a result of the operation of the Proposed Development has been assessed. Changes in noise levels have been calculated by comparing worst-case 18-hour average annual weekday traffic (AAWT) 2-way flows for the 2030 assessment year with projected operation traffic, to scenarios without projected development-related traffic to the prevailing 2024 baseline, and also for the assessment year 2030 but without traffic from the Proposed Development.
- 9.5.12 The calculated noise increases in dB  $L_{A10,18hr}$  due to development-related traffic are shown in Table 9.12.

**Table 9.12: Summary of predicted development generated road traffic noise increases**

Link	Increase in Noise Level dB $L_{A10,18hr}$			
	2024 Baseline			2030 Future + Aldi, <u>without</u> Development
	Vs	Vs	Vs	Vs
	2030 Future Base (all do nothing)	2030 Future + Aldi, <u>without</u> Development	2030 Future + Aldi <u>with</u> Development	2030 Future + Aldi <u>with</u> Development
Station Road North	0.3	0.3	8.2	7.9
Station Road South	0.3	0.3	0.4	0.1
Wood Road	0.3	5.7	6.1	0.5
B585	0.3	4.5	6.1	1.6
Ellistown Terrace Road	0.3	0.5	0.5	0.1
Victoria Road	0.3	3.0	4.5	1.5
West Lane	0.3	3.8	5.5	1.7
B585 - Bagworth Road	0.3	0.3	0.3	<0.1
Bagworth Road	0.3	0.3	0.4	0.1
B582 - Grange Road	0.3	0.3	2.0	1.7
A447 - Ibstock Road N	0.3	0.3	0.5	0.2
A447 - Ibstock Road S	0.3	0.3	0.7	0.4
A447 - Hinckley Road	0.3	0.3	0.6	0.3
B585 - West Lane	0.3	0.3	2.7	2.4



Link	Increase in Noise Level dB $L_{A10,18hr}$			
	2024 Baseline			2030 Future + Aldi, <u>without</u> Development
	Vs	Vs	Vs	Vs
	2030 Future Base (all do nothing)	2030 Future + Aldi, <u>without</u> Development	2030 Future + Aldi <u>with</u> Development	2030 Future + Aldi <u>with</u> Development
Beveridge Lane	0.3	0.3	0.3	<0.1
B585 - Beveridge Lane	0.3	1.3	1.9	0.7
A511 - Bardon Road W	0.3	0.5	0.8	0.3
A511 - Shaw Lane	0.3	1.0	1.3	0.3
Regs Way	0.3	0.3	0.3	<0.1
A511 - Bardon Road N	0.3	0.3	0.6	0.3
B591	0.3	0.4	0.4	<0.1
A511 - Little Shaw Ln	0.3	1.0	1.3	0.3
M1 North Slips	0.3	0.4	0.5	<0.1
A50	0.3	0.3	0.4	<0.1
M1 South Slips	0.3	0.4	0.5	0.1
Whitwick Road NW	0.3	0.3	0.3	<0.1

9.5.13 From Table 9.12, it is predicted that operational traffic associated with the Proposed Development, in combination with future baseline growth in traffic, including other committed development (Aldi), will give rise to an increase in road traffic noise of up to 8.2 dB  $L_{A10,18hr}$ , when compared to the 2024 baseline situation.

9.5.14 However, this reduces to 7.9dB  $L_{A10,18hr}$  when compared to the future scenario without development, but with natural growth and committed development accounted for.

9.5.15 Indeed, in this latter and more pertinent scenario, it is shown that the increase of 7.9dB  $L_{A10,18hr}$  occurs only on Station Road, immediately north of the entrance to the Proposed Development at the Site. Here, the numerical prediction equates to a potential increase in road traffic noise level on that highway of medium impact magnitude. However, in this case given the absence of residences adjoining that stretch of road it is considered that the cumulative adverse effect remains only one of slight significance.

9.5.16 On all other links, when comparing 2030 flows with the development to 2030 flows without (but with natural growth and committed development accounted for) the worst-case increase is 2.4 dB  $L_{A10,18hr}$ . For these lesser cases, therefore, from Table 9.12 the predicted increase in road traffic noise equates to an adverse impact of negligible magnitude and therefore a cumulative adverse effect of slight significance at any noise sensitive receptors exposed to existing noise from the relevant links on the surrounding highway network.

Operation – Fixed Plant Noise Emissions at the Proposed Development

- 9.5.17 There is no detailed information currently available about specific fixed plant items. Associated noise from any fixed plant, in the absence of any mitigation measures, will have potential to give rise to some adverse impact, depending on a number of variables. However, our understanding is that requirements in terms of fixed plant will be relatively minor, pertaining mostly to the servicing of the proposed office accommodation. It is therefore anticipated that any adverse impact in this regard will be no more than negligible even without mitigation. However, in any case it would be straightforward to apply suitable conventional mitigation techniques to offset and potential impact and hence ensure adverse effects of no more than slight significance. This may be readily controlled by use of standard planning conditions.

Operation – Mobile Noise Sources at the Proposed Development

- 9.5.18 The main noise associated with the Proposed Development will be that of external HGV movements around the Site, as well as FLT activity.
- 9.5.19 Detailed discussions have been held with the Applicant in order to fully understand the profile of the proposed operation in terms of worst-case activity levels at the design capacity for the Proposed Development.
- 9.5.20 Although there will be a small amount of *ad hoc* variation in terms of the profile of movements for some vehicles at the Site, the following has been established as suitably representative of operation to design capacity.
- 9.5.21 The Site has been meticulously designed to ensure very efficient running and throughput of vehicles with a one-way system clockwise around the building that reduces reversing and other general manoeuvring to an absolute minimum. The Site speed limit will be 10 mph.
- 9.5.22 The operation will entail HGVs arriving at the Site from Station Road. Often HGVs will be required to wait in a queue lane prior to admission *via* the gatehouse, although other priority vehicles may fast-track more directly through.
- 9.5.23 Once on site, HGVs will proceed to a set of queue lanes where they will wait. The assigned lane will be dependent upon priority and again some vehicles may fast-track through.
- 9.5.24 From the queue lanes, HGVs will proceed to the quality control (QC) shed, where curtain sides will be drawn back, and from where HGVs will then enter the building *via* the west elevation for internal unloading, or 'tipping'. The design capacity for internal tipping is 28 HGVs.
- 9.5.25 After tipping, HGVs will exit the building *via* the east elevation, turn right onto the clockwise one-way system, and proceed to docking areas to the south and north sides of the building for external loading below a canopy, or to park in the areas to the west and north of the Site. Those that parked will, at the appropriate time, ultimately also proceed to the docking areas to the south and north sides of the building for loading.
- 9.5.26 After loading, curtain sides will be re-drawn and HGVs will generally depart the Site, *via* the one-way system as required, to the east and onwards to the egress point to Station Road.
- 9.5.27 In order to assimilate the above, from discussions with and confirmation from the Applicant, a worst-case capacity 1-hour period has been considered. This has been based on the 28 HGV capacity of the internal tipping area. It has been established that a conservatively averaged timeframe for the tipping process is about 24-minutes, and this hence allows 2.5 cycles per hour, equating to a total of 70 HGVs tipping in a 1-hour period.



- 9.5.28 Each HGV is taken to enter the Site *via* the gatehouse and proceed *via* the queue lanes to the QC area and then into the building for tipping. As noted, some HGVs will be held stationary in the queue lanes, and all in the QC area, however for modelling purposes it is taken for each that stops, another will move out and onward, thus representative of a continuous flow, given that engines may be switched off when not moving.
- 9.5.29 After tipping, for modelling purposes, the 70 HGVs are taken to exit the building, with one-third proceeding to the docking area to the south of the building, another one-third to the and docking area to the north side (*via* the south due to the one-way system), and the remaining one-third moving to park west and north of the Site.
- 9.5.30 Similarly to above, however, it is taken that for each HGV that parks, one more will move on. Those that exit parking will hence proceed such that half will move to the south docking area and the other half to the north. As such, these HGVs will effectively complete an additional circuit of the building compared to those that proceed straight to docking after tipping.
- 9.5.31 For modelling purposes, and representative of proposed operation, all HGVs will ultimately, after loading in the docking areas, depart the Site, hence 70 HGVs will exit the Site during the 1-hour period considered.
- 9.5.32 It is noted that the assimilated 1-hour period does not, in reality, occur in isolation, rather it is part of a continuous flow of activity during busy periods at operational capacity. For example, largely, HGVs modelled as entering the Site during the assimilated 1-hour period will not in reality all be the same HGVs that exit during the same period, rather they will have entered previously, however this provides a robust representation of the flow of activity.
- 9.5.33 Similarly, whilst the prediction method is based on an assimilated 1-hour period, this is effectively representative of the noise generation over any reasonable assessment time interval as it captures the ongoing continuous flow of activity during busy periods at operational capacity
- 9.5.34 In addition to the flow of HGV movements around the Site, additional components relating to the HGVs have been incorporated to ensure a robust and complete assessment. Specifically, this has included noise generated by curtain sides being drawn back on all HGVs passing through the QC shed, based on an allowance for 20-seconds for this activity per HGV. Also, a similar allowance has been included for each HGV re-drawing curtain sides at the loading bays prior to departure.
- 9.5.35 Further to this, inclusion has been added for additional elevated HGV noise when reversing either into loading bays to the north and south of the Site, or into parking places to the west or north. For the loading bays, this has been distributed evenly across the bays and pro-rated to the projected number of HGVs. For parking, this has also been based on an even spread of activity across the relevant area. Due to the design, reversing into designated spaces will be a simple exercise, not requiring multiple back and forth movements, and hence a representative 20-second period per event has been allowed for in the modelling.
- 9.5.36 In addition to the HGVs, for a robust assessment, a single FLT has been modelled as being in continuous operation at each of the 66 loading bays at docking areas below canopies to the south and north sides of the building, of which there are 33 to each side. In reality, this is likely to be an over-estimate based on the projected capacity of HGVs, but has been taken to provide a robust assessment of potential worst-case operation.
- 9.5.37 In terms of reference source data, HGV movements have been based on a set of samples of actual pass-by measurements undertaken at the existing site of the Applicant. This has yielded



a logarithmically averaged reference level of 70dB  $L_{Amax}$  at 10 m. The  $L_{Amax}$  reference level has been used to define the level of the HGVs modelled as moving point sources, accounting for movement numbers as described above around the relevant parts of the Site.

- 9.5.38 Curtain drawing and reversing of HGVs has been based on Hepworth Acoustics Ltd library noise data, taken as 68dB  $L_{Aeq}$  at 3 m and 80dB  $L_{Aeq}$  at 10 m, respectively, per event. These sources have been modelled as point sources, which is considered suitable given the small range of movement for the specific events, relative to the receptor locations considered.
- 9.5.39 FLT activity has been based on a combination of actual noise measurements undertaken at the existing site of the Applicant along with other library data, taken as 68dB  $L_{Aeq}$  at 5 m. For a robust assessment, a 100 % on-time per FLT has been assumed. Also, it is noted that electric FLTs are expected to be used and the ground will be smooth (hence peaks of noise that can occur when traversing uneven ground will be generally eliminated). Accordingly, this is considered a very robust approach. Again, FLTs have been modelled as point sources, on the basis given above.
- 9.5.40 It is recognised that some noise egress from activities inside the building will occur. However, given the likely noise reductions, even *via* relatively large openings, when considering inside-to-outside noise propagation factors and the proportionality of external activities, no additional consideration of internal noise is necessary in this case.
- 9.5.41 The acoustic model has been generated using the CadnaA noise prediction software. This software enables a 3-dimensional computerised noise model of the Site and its surroundings to be used as a basis for undertaking automated noise calculations using the algorithms set out in the CRTN. Geographical data for the Site and surroundings (including ground height data) was obtained from Ordnance Survey digital data. The computerised noise model takes into account all relevant factors affecting propagation of road traffic noise including the topography of the Site and surroundings and barrier effects of physical objects e.g. intervening buildings, ground absorption effects and attenuation of sound over distance etc. The computerised noise model assumes a temperature of 10°C, humidity at 70 % and downwind propagation. The Site has been modelled as a hard acoustically reflective surface and the surrounding area as soft acoustically absorption ground.
- 9.5.42 The computerised noise model has been run without any additional mitigation and the resulting noise contour map at 4.0 m above local ground (representing first floor level at receptors) is presented in Table 9.2.
- 9.5.43 Further to this, the calculated noise levels from mobile noise sources at the Proposed Development, with no additional mitigation, at the key residential Receptors are shown in Table 9.13.

**Table 9.13: Calculated noise levels from mobile noise sources – no additional mitigation**

Receptor	Calculated noise levels from mobile noise sources at 4.0 m above local ground, with no additional mitigation dB $L_{Aeq,T}$
1 – To the west, Battram Road	48
2 – To the southwest, Wood Road	42
3 – To the southeast, Howden Close	45
4 – To the east, Station Road	48



- 9.5.44 Drawing on the findings of the baseline noise monitoring set out in Table 9.11, as well as the impact magnitude scale for mobile noise sources set out in Table 9.9, it is demonstrated that, without any additional mitigation in place, the noise from mobile noise source activity during operational capacity would give rise to an impact of medium magnitude at Receptors 1, 2 and 4 and hence an adverse effect of moderate to major significance at those receptors.
- 9.5.45 At Receptor 2, mobile noise source activity would give rise to an impact of small magnitude at Receptors 1, 2 and 4 and hence an adverse effect of slight to moderate significance.

## 9.6 Mitigation, Enhancement and Residual Effects

- 9.6.1 This section refers to the types of mitigation used as part of the Proposed Development, as defined in Chapter 2, and how they apply to the assessment of Noise and Vibration.
- 9.6.2 The Applicant has sought to identify and incorporate suitable measures and mitigation for potentially significant adverse effects, as well as maximising beneficial effects where possible. This has been achieved through an iterative process including consultation and engagement with consultees and through the EIA process.
- 9.6.3 Some primary and tertiary measures are embedded in the design of the Proposed Development, including the location and size of infrastructure, as defined in the Work Plans. Other measures are either secondary, termed tertiary, such as control and management plans, or measures integrated into legal requirements *via* environmental permits and consents.
- 9.6.4 The following sets out the embedded measures (primary), legal requirements (tertiary) and additional measures (secondary) relevant to the assessment of Noise and Vibration.

### Construction

- 9.6.5 Construction noise may be controlled by implementation of appropriate best practice noise mitigation measures. There is general guidance on the control of environmental noise impact of construction works in BS 5288 and adoption of this guidance is recommended below.
- 9.6.6 The main method of controlling and reducing noise from construction activities is the adoption of Best Practice Measures (BPM) as defined in the Control of Pollution Act 1974 (CoPA). Under Section 60 of CoPA, local authorities have powers to control activities at construction sites e.g. limiting hours of operation and the use of various items of plant.
- 9.6.7 In addition, Section 61 of the CoPA enables developers to agree construction protocols with a local authority prior to works commencing. These powers present the best method for minimising any noise effects that may arise during the construction phase of the Development. It is recommended that the following measures, which are in accordance with the guidance in BS 5288, are implemented to mitigate construction noise and vibration:
- construction site working hours would be limited to the daytime only e.g., with no working on Sundays and Bank Holidays;
  - deliveries of building materials would only be made to the Site during the daytime hours specified above;
  - vehicle routes on site would be designed (e.g., with one-way systems) so as to minimise use of reversing sirens of vehicles;
  - no percussive piling would be undertaken on the Site without the prior consent of



the Local Authority;

- any spoil that is generated from the Development would be re-used on site as far as is practicable;
- all excavators, loaders, dumpers, etc, used on the Site would comply with the latest European Communities (EC) noise certification limits;
- all machinery would be operated with their engine covers closed and engines will not be left with engines running unnecessarily;
- the condition of silencers, engine enclosures, acoustic body panels, etc, would be checked and maintained regularly;
- the construction site compound would be located well away from existing residential areas;
- all personnel (including sub-contractors) would be instructed on requirements to minimise noise and vibration as part of the Site induction process; and
- a CEMP will be drawn up which will include the above measures to mitigate the impact of construction noise on neighbouring residential areas as well as procedures for liaising with local residents, dealing with any complaints, and carrying out noise monitoring if required by the Environmental Health Officer. It shall also identify any areas where the type/duration of construction works would warrant the provision of temporary noise barriers. This will be secured through an appropriately worded planning condition.

9.6.8 The mitigation of construction noise and vibration hence effectively combines primary, secondary and tertiary forms.

#### **Operation**

9.6.9 No mitigation measures are warranted in respect of noise from traffic generated by the Proposed Development on existing roads.

#### Operation – Fixed Plant Noise Emissions at the Proposed Development

9.6.10 Detailed specification of limiting noise levels and appropriate noise mitigation for fixed plant will be determined at the detail design stage, once a greater level of information on specific plant requirements is known. However, appropriate and commensurate mitigation and noise control may take the form of careful location/orientation of noise generating plant, use of low noise equipment, use of conventional noise control apparatus and/or localised physical acoustic screening. Inherently, it is not anticipated that control of fixed plant noise emissions should present any undue constraints due in part to the substantial separation distances between the Site and nearby receptors. Nonetheless, this will be secured through an appropriately worded planning condition.

9.6.11 Again therefore, the mitigation of fixed plant noise emissions hence effectively combines primary, secondary and tertiary forms

#### Operation – Mobile Noise Sources at the Proposed Development

9.6.12 There are a number of primary mitigation measures, i.e. embedded noise mitigation factors incorporated within the Proposed Development. These include the operational design, incorporating an efficient one-way system around the building that reduces HGV reversing





and other general manoeuvring to an absolute minimum, as well as enforcement of a 10 mph, ensuring HGV noise emissions are controlled to a minimum. Internal tipping of loaded HGVs also contributes to the control of noise. FLT's are to be of modern electric type, which are quieter in operation than traditional types.

- 9.6.13 Nonetheless, noting that the assessment has shown a potential adverse impact of moderate to major significance in the absence of additional noise mitigation measures at certain receptors, it is appropriate to consider additional (secondary) mitigation measures to moderate the impact.
- 9.6.14 In practicable terms, additional noise mitigation for the Proposed Development would be limited to the incorporation of physical acoustic screening. To explore this, acoustic screening barriers have been incorporated into the computerised noise model around necessary areas of the site perimeter, as required to provide acoustic protection to the nearby residential receptors.
- 9.6.15 The computerised noise model has been updated with acoustic barriers incorporated in indicative appropriate locations around the west, southeast sides of the effective working area of the Proposed Development.
- 9.6.16 By way of an iterative process, it has been determined that incorporation of suitably located acoustic barriers of 3.0 m height would be appropriate and adequate to achieve a commensurate level of noise attenuation from mobile noise sources.
- 9.6.17 The indicative recommended acoustic barrier extents are identified in Table 9.3. The noise contour map at 4.0 m above local ground with acoustic barriers incorporated is presented in Table 9.4.
- 9.6.18 The calculated noise levels from mobile noise sources at the Proposed Development, with acoustic barriers incorporated, at the key residential receptors are shown in Table 9.14.

**Table 9.14: Calculated noise levels from mobile noise sources – with acoustic barriers**

Receptor	Calculated noise levels from mobile noise sources at 4.0 m above local ground, with acoustic barriers dB $L_{Aeq,T}$
1 – To the west, Battram Road	44
2 – To the southwest, Wood Road	42
3 – To the southeast, Howden Close	42
4 – To the east, Station Road	44

- 9.6.19 In addition to the physical screening, noise generation can be best practicably controlled via implementation of a suitable Noise Management Plan (NMP) to create a set of protocols for site activity. This may include means for encouraging and enforcing adherence to the Site speed limits, to eliminate unnecessary idling or revving of engines, and other practical measures. A suitable NMP may be enshrined in an appropriate condition.

#### Residual

- 9.6.20 The residual effects during the construction phase, with the employment of appropriate measures in accordance with the 'best practice' guidance that is set out in BS 5228, for the majority of the time it is anticipated that any adverse noise and vibration effect will be of





minor or negligible significance.

- 9.6.21 With regard to the operational phase, the cumulative residual adverse effect of development generated road traffic noise increases will be of slight significance at any noise sensitive receptors exposed to existing noise from the relevant links on the surrounding highway network.
- 9.6.22 With the incorporation of any necessary noise mitigation measures in place, the residual adverse effects of any fixed plant noise emissions will be of no more than slight significance.
- 9.6.23 With the incorporation of acoustic barriers as required, as well as the implementation of a Noise Management Plan, the residual adverse effect of noise from mobile noise sources in operation at the Site will be of slight to moderate significance at all receptors.

## 9.7 Cumulative and In-Combination effects

- 9.7.1 Cumulative effects are those arising from impacts of the Proposed Development in combination with impacts of other proposed or consented development projects that are not yet built or operational.
- 9.7.2 A number of other schemes in the wider local area has been considered in terms of potential cumulative noise and vibration impacts, as set out in Table 9.15.

**Table 9.15: Cumulative schemes**

Local Planning Authority	Planning Reference	Site Location	Distance from the Site
Hinkley and Bosworth Borough Council	25/00060/FUL	Electricity Substation Wood Road, Nailstone	0.3 km
Hinkley and Bosworth Borough Council	24/00828/REM	Land South Of 295 Main Street, Stanton Under Bardon	3.4 km
NWLC	24/01457/EIA	Land Off Cartwright Way Bardon Hill, Coalville	2.5 km
NWLC	24/01398/OUT	Charnwood Fencing Ltd Beveridge Lane, Coalville	2.35 km
NWLC	24/01167/FUL	Unit 5 Sence Court, Bardon, Coalville	2.7 km
NWLC	25/00279/FULM	Regs Way, Bardon, Coalville	2 km
NWLC	24/01648/REMM	Land Off Beveridge Lane, Coalville	1.9 km
NWLC	24/01653/OUTM	Land to the East of Midland Road, Ellistown	2 km
NWLC	24/01618/OUTM	Land West of Midland Road, Ellistown	2.2 km
NWLC	24/00970/VCIM	Land to the North Wainwright Road, Hugglescote	3.1 km
NWLC	24/01591/VCIM	Land North of Standard Hill and West of Highfield Street Hugglescote, Coalville	4.1 km
NWLC	24/01304/FULM	Standard Hill, Coalville	4.2 km



Local Planning Authority	Planning Reference	Site Location	Distance from the Site
NWLC	24/01317/VCIM	Land North of Standard Hill and West of Highfield Street, Hugglescote, Coalville	4.1 km
NWLC	24/01189/VCIM	Phase 2A Land to the North of Grange Road, Lower Bardon	2.7 km

- 9.7.3 It is firstly noted that, with the exception of 25/00060/FUL, which is located 0.3 km to the south, all other schemes listed in Table 9.15 are at least 1.9 km from the site.
- 9.7.4 Accordingly, with the exception of 25/00060/FUL, there is not considered to be any need to consider cumulative impacts of any on site generated noise, either from construction of operation of those schemes.
- 9.7.5 In terms of a potential cumulative impact of road traffic noise increases on the local highway network, attributable to the Proposed Development, the assessment set out in this Chapter also accounts for in future year growth factors, as well as the new Aldi distribution centre, and hence is inherently a cumulative assessment.
- 9.7.6 Regarding 25/00060/FUL, notwithstanding the slightly greater proximity to the Site, it is noted that this is a relatively small scheme for internally housed substation equipment, relating to and serving the adjacent new Aldi distribution centre site. Based on publicly available planning application documents, the scheme is predicted to result in a low noise impact at the nearest existing residence thereto, which is at 22 m from the scheme. The predicted noise emission level is shown to be 26dBA at that location for non-emergency use.
- 9.7.7 Of the receptors considered in this Chapter in relation to the Proposed Development, the nearest to the substation scheme as per application reference 25/00060/FUL is Receptor 2 at Wood Road, at distance of >260 m. On this basis, a substation noise level of <10dBA would be expected. This is an extremely low level of noise and hence there will be no cumulative impact at this receptor, and hence none at any other receptor at greater distance.
- 9.7.8 Following from above, noting that the substation described relates to the new Aldi distribution centre site, it is also appropriate to consider the cumulative impact of the operation of that scheme and the Proposed Development.
- 9.7.9 Again, based on publicly available planning application documents for the Aldi distribution centre site, it is noted that the decision notice does not include any conditions explicitly stating noise limits at the Site. However, Condition 18 of that decision notice does require noise validation testing to be carried out once the Site is operational, for the stated purpose: *“to validate the findings of the Noise Impact Assessment carried out by BWB Consulting Ltd dated 12 February 2020”*.
- 9.7.10 The referenced report by BWB Consulting Ltd adopts a criterion of 45dB  $L_{Aeq,1hr}$  attributable to operation of the Aldi scheme, at nearby residences, albeit with incorporation of an allowable exceedance of up to 3dBA.
- 9.7.11 The report includes noise predictions to a number of existing residences, one of which is essentially common to Receptor 1 at Battram Road as considered in this Chapter in relation to the Proposed Development. At this location, the Aldi scheme is predicted to give rise to an operational noise level of 42dB  $L_{Aeq,1hr}$ . Combination of this level with the prediction noise



level attributable to the Proposed Development would give rise to an overall increase in noise of up to 2dBA. However, due to relative orientations of the Aldi scheme, the Proposed Development and Receptor 1, noise impacts would result impacts at different elevations at the receptor.

- 9.7.12 Also, with the Aldi scheme fully operational, as established in this Chapter, additional HGV road traffic attributable to that scheme will give rise to increased noise on Wood Road. Accordingly, this noise will mask and dilute the perceived impact of operational noise on either site, at receptor locations close to this road.
- 9.7.13 Drawing together the above, it considered therefore that the cumulative effect will remain one of slight adverse significance.

## 9.8 Statement of Significance

### Construction Phase

- 9.8.1 With effective implementation of noise and vibration mitigation measures within the CEMP, for the majority of the time it is anticipated that any adverse noise and vibration effect will be of slight to moderate significance.

### Operational Phase

- 9.8.2 Predicted increase in road traffic noise is anticipated to give rise to a cumulative adverse effect of up to slight significance at any noise sensitive receptors exposed to existing noise from the relevant links on the surrounding highway network, attributable to the Proposed Development. No mitigation measures are warranted in this regard.
- 9.8.3 Fixed-plant noise emissions may be controlled by way of appropriate and commensurate mitigation measures. secured through an appropriately worded planning condition, to ensure adverse effects of no more than slight significance
- 9.8.4 Without appropriate mitigation, noise from mobiles noise sources may give rise to an adverse effect of moderate to major significance. However, with suitable mitigation incorporated, including incorporation of suitable acoustic barriers, this may be controlled such that the adverse effect is of no more than slight to moderate significance

### Mitigation, Enhancement and Residual Effects

- 9.8.5 A summary of potential environmental effects, mitigation and monitoring is provided in Table 9.16. Table 9.16 summarises all mitigation in relation to Noise and Vibration how these measures are secured, the party responsible for the implementation of the measure, when the measure would be delivered and any mechanisms to deliver the measure.



Table 9.16: Noise and vibration summary

Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Significance of Effects	Residual effect significance	Mitigation/ Enhancement Measures	Securing mechanism	Residual Effects
<b>Construction</b>										
Exiting Residential Receptors	Noise Associated with Construction Activity	Temporary	High	Negligible to Medium	Local	Slight to Moderate Adverse		Best Practicable Mitigation <i>via</i> CEMP	Planning Condition	Slight to Moderate Adverse
Exiting Residential Receptors	Vibration Associated with Construction Activity	Temporary	High	Negligible	Local	Slight Adverse		Best Practicable Mitigation <i>via</i> CEMP	Planning Condition	Slight Adverse
<b>Operation</b>										
Exiting Residential Receptors	Development generated road traffic noise increases	Permanent	High	Negligible	Local	Slight Adverse		None Warranted	N/A	Slight Adverse
Exiting Residential Receptors	Fixed Plant Noise Emissions at the Site	Permanent	High	Negligible	Local	Slight Adverse		Design and Selection of Plant and Noise Control Measures to Meet Noise Limits	Planning Condition	Slight Adverse
Exiting Residential Receptors	Mobile Noise Source Activity at the Site	Permanent	High	Small to Medium	Local	Moderate to Major Adverse		Embedded Mitigation, Acoustic Barriers, Noise Management Plan	Planning Condition	Slight to Moderate Adverse



## 10. Landscape and Visual

### 10.1 Introduction

- 10.1.1 This chapter of the ES identifies and describes the nature and significance of the effects on landscape character and visual amenity as a result of the Proposed Development.
- 10.1.2 The purpose of the LVIA is to review landscape character and visual amenity, and to assess the landscape and visual effects of the proposed development (i.e., that is presented by this application) on the receiving landscape receptors and visual receptors.
- 10.1.3 This Landscape ES Chapter has been prepared by James Bullock Director of BLADE Landscape Architects Limited ('BLA') which is a Registered Practice of the Landscape Institute. James has a Degree in Landscape Architecture, a Post Graduate Diploma in Landscape Architecture, and educated to a Chartered level and nearly 30 years' experience in multi-disciplinary environmental consultancy specialising specialised in the assessment of a very wide range of development proposals, including development in sensitive landscape setting, design and assessment of numerous employment, commercial developments, extensive mixed used development, residential schemes and renewable energy projects. This Landscape ES Chapter has been prepared in accordance with the guidance of the Landscape Institute.
- 10.1.4 In accordance with the Environmental Impact Assessment (EIA) Regulations (2021)<sup>60</sup> the ES chapter has been carried out by competent experts, comprising Members of the Landscape Institute, and is in accordance with guidance of the professional institution, the 'Guidelines for Landscape and Visual Impact Assessment', third edition (GLVIA version 3)<sup>61</sup>, published by the Landscape Institute and the Institute of Environmental Management and Assessment, in 2013.
- 10.1.5 This assessment is accompanied by Figures 10.1 – Figures 10.4 within Volume 2 of the ES.
- 10.1.6 This assessment is accompanied by Appendix 10.1 – Appendix 10.5 within Volume 3 of the ES.
- 10.1.7 The 'EIA Regulations' control the need and procedure for the EIA process, which is addressed and explained through an ES. One of the environmental factors specified in the 'EIA Regulations' that is likely to be significantly affected by development is 'landscape', and this factor has been scoped into the ES.

### 10.2 Legislative and Planning Framework

#### Relevant Legislation

- 10.2.1 The principal legislative and planning context in relation to the assessment of the effects of the Proposed Development on Landscape Character and Visual Amenity is presented below.

#### Relevant Planning Policy

- 10.2.2 The 'EIA Regulations' control the need and procedure for the EIA process, which is addressed

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<sup>60</sup> HM Government (2021). *The Town and Country Planning (Environmental Impact Assessment) Regulations 2017*, as amended by *The Town and Country Planning (Environmental Impact Assessment) (Amendment) Regulations 2021*.

<sup>61</sup> Landscape Institute and Institute of Environmental Management and Assessment (2013). *Guidelines for Landscape and Visual Impact Assessment – Third Edition (GLVIA3)*. Routledge, Abingdon.



and explained through an ES. One of the environmental factors specified in the 'EIA Regulations' that is likely to be significantly affected by development is 'landscap', and this factor has been scoped into the ES.

### Planning Policy Context

- 10.2.3 GLVIA version 3 does not require that an assessment of legislation or planning policies be a component of the LVIA process. The assessment of landscape and visual effects is prepared independent of the planning considerations which are made based on merit, compliance, and balance by the determining authority. However, it is recognised that designations and policies may provide an indication of the 'value' of landscape and visual assets.
- 10.2.4 The following legislation and policy have informed the assessment of effects within this Chapter:
- National Planning Policy Framework (NPPF) revised December 2024);<sup>62</sup>
  - Hinckley and Bosworth Borough Council Core Strategy 2006-2026<sup>63</sup>; and
  - Hinckley and Bosworth Borough Council, The Good Design Guide Supplementary Planning Document (Adopted March 2020)<sup>64</sup>

### Other Relevant Policy, Guidance and Evidence Base Documents

- Hinckley and Bosworth Local Plan 2020-2041 Regulation 18 Consultation Draft Plan (July 2024)<sup>65</sup>;
- Bagworth, Thornton and Stanton Under Bardon Neighbourhood Plan (Draft Regulation 15/16 submission document)<sup>66</sup>;
- Green Infrastructure Strategy (July 2020)<sup>67</sup> and;
- The National Forest Guide for Developers and Planners: Summary.<sup>68</sup>

### National Planning Policy

- 10.2.5 The NPPF was updated in December 2024 and sets out the Government's planning policies for England and how these should be applied. At the heart of the NPPF is a presumption in favour of sustainable development.
- 10.2.6 Paragraphs 116 of the NPPF requires that development is of high quality and inclusive design

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<sup>62</sup> National Planning Policy Framework (2024). Department for Levelling Up, Housing and Communities. Published 12 December 2024 (updated 7 February 2025).

<sup>63</sup> Hinckley and Bosworth Borough Council (2009). Core Strategy 2006–2026 (Adopted December 2009). Hinckley and Bosworth Borough Council.

<sup>64</sup> Hinckley and Bosworth Borough Council (2020). The Good Design Guide Supplementary Planning Document (Adopted March 2020). Hinckley and Bosworth Borough Council.

<sup>65</sup> Hinckley and Bosworth Borough Council (2024). *Hinckley and Bosworth Local Plan 2020–2041: Regulation 18 Consultation Draft Plan (July 2024)*.

<sup>66</sup> Bagworth, Thornton and Stanton Under Bardon Parish Councils (2025). *Bagworth, Thornton and Stanton Under Bardon Neighbourhood Plan: Draft Regulation 15/16 Submission Document*.

<sup>67</sup> Hinckley and Bosworth Borough Council (2020). *Green Infrastructure Strategy (July 2020)*.

<sup>68</sup> The National Forest Company (n.d.). *The National Forest Guide for Developers and Planners: Summary*.

Here are the footnotes for the two professional guidance documents:



which functions well and adds to the overall quality of the area, establish a strong sense of place, optimise the potential of the Site, respond to local character and history reflecting the local surroundings and materials, create safe and accessible environments where crime and disorder and the fear of crime do not undermine quality of life or community cohesion and are visually attractive as a result of good architecture and appropriate landscaping.

10.2.7 The NPPF Paragraph 131 states that the *“creation of high quality, beautiful and sustainable buildings and places is fundamental to what the planning and development process should achieve. Good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities”*.

10.2.8 Paragraph 136 states that *“new streets [should be] tree-lined”, and “that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly-planted trees, and that existing trees are retained wherever possible”*.

10.2.9 Paragraph 187 notes that the need to recognise the intrinsic character and beauty of the countryside, and the wider benefits from natural capital, with subsection a stating:

*“.....protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan).”*

10.2.10 Paragraph 187 makes it clear that there is a hierarchy to the importance and value attributed to landscapes, and that the development plan should identify the quality of particular landscapes that are not subject to statutory protection, stating at subsection b:

*“recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland.”*

10.2.11 Relevant Planning Policy Guidance that accompanies the NPPF includes that relating to Green Infrastructure, Landscape, and Design (including the National Design Guide).

#### **Local Planning Policy**

10.2.12 The Site lies within the administrative area of Hinckley and Bosworth Borough Council LPA. The following adopted policy documents are of relevance to the Site and the Proposed Development;

- Hinckley and Bosworth Borough Council Core Strategy 2006-2026 (Adopted December 2009); and
- The Good Design Guide Supplementary Planning Document (Adopted March 2020).

10.2.13 Hinckley and Bosworth Borough Council is currently working on a new Local Plan which will set out land allocations and planning policies for the period 2020 to 2041. The Regulation 18 draft Local Plan was consulted on between July and September 2024.

10.2.14 The Site lies within the Bagworth, Thornton and Stanton Under Bardon Neighbourhood Plan Area which has an actively progressing Neighbourhood Plan. The Neighbourhood Plan was recently submitted to and accepted by the Council on 14th February 2025 in order to progress to consultation and examination.





Hinckley and Bosworth Borough Council Core Strategy 2006-2026

*Spatial Objective 9: Identity, Distinctiveness and Quality of Design*

*“To ensure development contributes to the local distinctiveness of the borough, and enhances both settlement identity and the environment through the quality of sustainable design. Design and other measures will be used to develop strong community identities and neighbourhood pride.”*

*Spatial Objective 10: Natural Environment and Cultural Assets*

*“To deliver a linked network of green infrastructure, enhancing and protecting the borough’s distinctive landscapes, woodlands, geology, archaeological heritage and biodiversity and encourage its understanding, appreciation, maintenance and development.”*

*Policy 21: National Forest*

*“Within the National Forest new developments will be required to reflect the Forest context in their accompanying landscape proposals. Developments shall provide on site or nearby landscaping that meets the National Forest development planting guidelines. Landscaping will generally involve woodland planting, but can also include creation and management of other appropriate habitats, open space provision and the provision of new recreational facilities. The appropriate mix of landscaping features will depend upon the setting and the opportunities that the site presents.”*

The Good Design Guide Supplementary Planning Document

*“Considering the interface established built hierarchy, between the development and the surrounding context.... In rural areas it may necessitate implementing adequate landscaped buffers, including mature planting and treelines to screen or soften development.”*

*“Create an appropriate mix of hard and soft landscaping, incorporating and enhancing any existing green infrastructure and considering boundary treatments, including the creation of bunds where appropriate”*

*“Providing a comfortable interface to its context responding to an....open rural context through mature landscaping. This interface should take into account visual impact in terms of scale and physical prominence, and the impact of its particular function that may create noise, harmful substances or dangerous activity.”*

**The National Forest Guide for Developers & Planners: Summary**

10.2.15 This document provides a summary the Guide for Developers and Planners which provides *“guidelines for creating attractive, wooded settings for new development”*.

10.2.16 Developers are encouraged to *“create sustainable, design-led schemes that reflect local character and the Site’s location within the National Forest.”* Forest-related green infrastructure will consist of elements which include the following, depending on the character of the Site and its surroundings:

- *New woodland planting (ideally a minimum size of 0.25ha);*
- *Creation of woodland belts (minimum of 15m wide);*
- *Planting to form parkland-style landscapes;*





- *Ecologically designed sustainable drainage systems;*
- *Creation of new habitats (wetlands, reedbeds, meadows, heathlands);*
- *Incorporation and management of existing woodland and hedgerows;*
- *Greenways - landscaped footpath and cycle routes;*
- *Roadside trees; and*
- *Development landscaping with a strong tree emphasis.*

### 10.3 Assessment Approach

#### Consultation

- 10.3.1 Consultation and engagement have informed the LVIA. Table 10.1 outlines engagement that has been undertaken to inform this assessment.

**Table 10.1: Key Consultation Information**

Consultee	Points raised	Response
Pre-app	n/a	As below undertaken as part of the Planning Performance Agreement.
EIA Scoping	Baseline Conditions. Scope of the Assessment. Potential for Landscape and Visual Impacts. Proposed Viewpoints Mitigation. Assessment Methodology	Engagement with the Local Planning Authority's Planning Officer Case Officer (appointed under the Planning Performance Agreement (PPA)) which included consultation, discussion and agreement with the Local Planning Authority's appointed External Landscape Consultants (Node Urban Design Limited) and also included the agreement of assessment methodology and also the graphical representation style either Wire Line or Accurate Visual Representation for selected viewpoints.
Any others (Stat consultation as relevant)	n/a	n/a

#### Assessment Methodology

- 10.3.2 The LVIA was prepared to best practice (GLVIA version 3), and assess direct and indirect effects, taking account of the cumulative effects with other developments in the area.
- 10.3.3 The process of the LVIA, the initial baseline findings were included in the EIUA screening exercise, which also included the proposed location of viewpoints as appropriate for the LVIA field work.
- 10.3.4 Chapter 2 includes an over-arching Environment Impact Assessment (EIA) methodology. However, to provide relevant consideration of the effects on landscape character and visual amenity, a separate ES LVIA assessment methodology prepared by BLADE is used. This is



contained in Appendix 10.1 (Volume 3). The assessment methodology for assessing landscape and visual effects prepared by BLADE is based on the following best practice guidance:

- Guidelines for Landscape and Visual Impact Assessment – Third Edition (LI/IEMA, 2013)<sup>69</sup> (GLVIA); and
- Landscape Character Assessment – An approach to Landscape Character Assessment (October 2014)<sup>70</sup> produced on behalf of Natural England.

### Zone of Theoretical Visibility

- 10.3.5 A broad area of search was defined using a GIS-based computer programme, which predicts the Zone of Theoretical Visibility (ZTV). The ZTV of the Proposed Development is the area of land that is theoretically seen in views and therefore, it can be presumed, from which all or part of the Proposed Development; see Figure 10.2 (Volume 2).
- 10.3.6 This GIS-based plan utilises the height of proposed buildings to map an area by which the proposal could be seen from. This is based on the assumption that there are no intervening landforms, hedgerows or buildings that block such views. The overall height to ridge of the proposed buildings are as follows:
- Proposed Warehouse is 24.8 m;
  - Proposed Office is 16.35 m; and
  - Proposed Maintenance Building is 9.4 m.
- 10.3.7 The actual visibility of the Site is, of course, affected by these intervening elements and to a different degree in winter and summer, where built form, landform and mature vegetation filter or screens views.
- 10.3.8 The ZTV was calculated to inform the selection process for identifying representative viewpoints and to undertake additional visual analysis within the study area. The ZTV is contained in Figure 10.2 (Volume 2).
- 10.3.9 Visibility was calculated using a Geographical Information System (GIS), one outcome of which was to produce a ZTV. This software generates an array of sightlines from the viewpoint locations (points) to the proposed building heights (ridge) within the proposed development area.
- 10.3.10 These sightlines are rendered with a colour to show the spread of theoretical visibility. In this assessment, purple represents the line-of-site arrays which combine to form a solid colour.
- 10.3.11 The position either above or below the visibility line of each pixel (ground level (DTM)+1.6 m) along the line is recorded. These locations (DTM+1.6 m) represent possible human receptors who could theoretically experience a view of the development.

### Study Area

- 10.3.12 As a result of the baseline analysis and an understanding of the scale and nature of the

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<sup>69</sup> Landscape Institute and Institute of Environmental Management and Assessment (2013). *Guidelines for Landscape and Visual Impact Assessment* – Third Edition (GLVIA3). Routledge, Abingdon.

<sup>70</sup> Natural England (2014). *An Approach to Landscape Character Assessment*. Natural England, October 2014.



development within the existing landscape fabric and topography, as well as the likely extent and distribution of potentially significant effects, the assessment defines the following study areas as represented on supporting plans to this ES chapter:

- general study area of up to 5 km from the Site (providing the broad geographical context); and
- detailed study area of up to 2 km from the Site, within which, there may be significant effects from the Proposed Development, these would potentially be experienced within this area.

10.3.13 The purpose of the EIA process is to identify the significant environmental effects (both beneficial and adverse) of development proposals.

10.3.14 To consider the likely significance of any effect, the sensitivity of each receptor is combined with the predicted magnitude of change to determine the significance of effect, with reference made to the geographical extent, duration and reversibility of the effect within the assessment.

10.3.15 This assessment will make judgements on whether the level of effect is or is not 'significant' in relation to this LVIA methodology and the matrix presented on Table 10.2. The criteria for evaluating the sensitivity and magnitude of change are contained in the LVIA methodology.

10.3.16 Having taken such a wide range of factors into account when assessing sensitivity and magnitude at each receptor, the significance of effect can be derived by combining the sensitivity and magnitude in accordance with the matrix in Table 10.2.

**Table 10.2: Levels of effects matrix**

	Magnitude of Change				
Receptor Sensitivity	Very High	High	Medium	Low	Negligible
Very High	Substantial	Major	Major/-moderate	Moderate	Moderate/-minor
High	Major	Major/-moderate	Moderate	Moderate/-minor	Minor
Medium	Major/-moderate	Moderate	Moderate/-minor	Minor	Minor/-negligible
Low	Moderate	Moderate/-minor	Minor	Minor/-negligible	Negligible
Negligible	Moderate/-minor	Minor	Minor/-negligible	Negligible	Negligible/-none
Indiscernible	Imperceptible	Imperceptible	Imperceptible	Imperceptible	Imperceptible

10.3.17 Each effect is described and evaluated individually through the integration of all the relevant factors and assessed as either significant or not significant. For landscape and visual effects, those effects identified at a substantial, major, major/moderate or moderate level are generally considered to be significant and those effects assessed at a moderate/minor, minor, minor/negligible or negligible level are not significant, or indiscernible/imperceptible.



- 10.3.18 For consistency, where the term 'negligible' where the effect is *"barely discernible loss or alteration to key components; addition of elements not uncharacteristic within the existing landscape"*, and where the term 'imperceptible' is used, the effects is 'none' or there is 'no effect', the nature of the effect might be neutral, and changes to key landscape components will be 'lower than negligible and changes will be described as 'imperceptible'.
- 10.3.19 In certain cases, where additional factors may arise, a further degree of professional judgement may be applied when determining whether the overall change in the view or to landscape character will be significant or not and, where this occurs, this is explained in the assessment.

### **Consequence of Development**

- 10.3.20 It is important to acknowledge that GLVIA version 3, Paragraph 3.33, states:
- "It is not essential to establish a series of thresholds for different levels of significance of landscape and visual effects, provided that it is made clear whether or not they are considered significant."*
- 10.3.21 The simple point is to make clear judgements as to whether the effects are significant or not significant. Notably the word 'harm' is not contained in the GLVIA version 3, any judgements on 'harm' are planning judgements and would be addressed in the appropriate forum.
- 10.3.22 This assessment therefore comments on the nature of the changes and whether the changes will be significant in the determination of the application, and this LVIA considers the inter-related but distinct issues of the effects on the landscape, its character and resources and the views and visual amenity experienced by people.

### **Cumulative Assessment**

- 10.3.23 Cumulative effects generally occur where there may be simultaneous or sequential visibility of two or more developments of the same type and scale, or where the consideration of other schemes would increase an effect identified.
- 10.3.24 The scoping report identified a list of 14 cumulative residential and commercial developments initially identified for consideration in Table 4 contained within that report (Appendix 1.3, Volume 3).
- 10.3.25 As confirmed in their Scoping Opinion dated 28th March 2025, Natural England requested a cumulative assessment. (Appendix 11.4, Volume 3)
- 10.3.26 Consequently, the list of 11 developments have been scoped out of this cumulative assessment due to their residential nature. The following schemes to be considered in the cumulative landscape and visual assessment are as follows in Table 10.3. Refer to the Cumulative Theoretical Visibility Figure in ES Figure 10.3 (Volume 2) for a graphical representation of the cumulative site locations:



**Table 10.3: Cumulative Sites for Consideration**

Planning Reference	Planning Authority	Name	Description	Distance and Direction from Site
24/01398/OUT	North West District Council	Charnwood Fencing Ltd Beveridge Lane, Coalville, Ellistown, Leicestershire	Outline application for the erection of two commercial buildings with all matters reserved except for layout.	In excess of 2.6 km north east
25/00279/FULM	North West District Council	Regs Way, Bardon, Coalville, Leicestershire	Application for demolition of existing building and erection of storage and distribution warehouse with ancillary office, associated parking, vehicular access works, landscaping and associated works.	In excess of 2.1 km north north east
24/01653/OUTM	North West District Council	Land to the East of Midland Road, Ellistown, Leicestershire	Development of Site to provide for up to 29,160 sqm of employment development floorspace with ancillary floorspace, together with habitat creation, landscaping, parking, service yards, footpaths/cycleways, and other associated infrastructure.	In excess of 2.3 km north north west

### Limitations and Assumptions

- 10.3.27 The assessment process considers the likely effects of the Proposed Development using the current knowledge of the Site and its context; site surveys and investigation; and desktop analysis which includes publicly accessible information. Appropriate regard has been made to national and local planning policy, and relevant legislation, guidance and best practice current at the time of preparing the LVIA.
- 10.3.28 Every reasonable effort has been made to obtain baseline information and to accurately predict the effects of the Proposed Development.
- 10.3.29 The baseline fieldwork analysis was undertaken during spring conditions during late March 2025. Baseline Photographs (i.e., Type 1 Annotated Viewpoint Photographs as referred to in TGN 06/19) are used within the LVIA. Prior to the undertaking of the assessment, the position of all Viewpoints was consulted and agreed with the LPA. This was undertaken through written correspondence and a virtual meeting with the LPA's Case Officer (Pre-Application) and also the LPA's appointed Landscape Consultant.
- 10.3.30 Photographs were taken from publicly accessible locations to provide representative views for visual receptors. It was not possible to take photographs from properties. However, reasoned assumptions are made on visibility through the fieldwork and, where possible, through the use of photographs from nearby public locations to provide an understanding of



visibility.

- 10.3.31 The assessment of potentially significant effects applies the assessment methodology to arrive at its conclusions. This procedure brings a degree of objective, procedural rigour into what otherwise might be judged to be 'personal opinion'. Certainly, professional judgement still plays its part, but the purpose of adopting a methodology is to make the process as clear and logical as possible.
- 10.3.32 Given the foregoing analysis, a number of representative viewpoints were selected for examination as part of this LVA. These viewpoints have been selected to reflect the principle that this appraisal is to examine the 'worst case' scenario.
- 10.3.33 The selection of these viewpoints has been conscious of appraising the Site from all points of the compass, as well as within a range of distances to the Site, as well as testing the development proposals from a range of receptor types.

#### **Defining Time Horizons**

- 10.3.34 LVIA undertaken as part of an EIA is required to include an assessment of effects at different stages of the life-cycle of the development.
- 10.3.35 As detailed in ES Chapter 4 (Proposed Development), the phases of development are consecutive. The construction will be phased over a 12 month period, commencing on site in Q4 2025 and operational from Q1 2027.
- 10.3.36 Early construction processes would involve earthworks and surface levelling. A Site compound would be set up to provide Site office, welfare facilities, storage cabins and external materials setting down areas.
- 10.3.37 Principal routes for construction access to the Site and delivery of materials and goods will be taken from the Station Road using the existing site access. Access to the Site would not involve the use of any roads that principally service established residential areas.

#### **Future Baseline**

- 10.3.38 The likely evolving and future baseline of the Site - as can reasonably be expected - in the event that no development comes forward on the Site has been evaluated. It is assessed that the Site would continue to be farmed as agricultural land and would be subject to the influences of development situated around this location, including the existing similar development along Station Road at its nearest location.
- 10.3.39 The Site would continue to be managed as arable farmland and the management of field boundary features utilising the same regime as is currently employed. Whilst vegetation would continue to mature, marked changes to the Site are not anticipated.

#### **Collaboration in the Design Process**

- 10.3.40 The author has engaged with the client team to achieve a design solution which is driven by, and responds to, the local landscape and visual constraints, and other technical issues.



## Significance of Effects

### Temporal Scope of Assessment

10.3.41 Define any temporal scope for the assessment where relevant.

#### *Construction*

10.3.42 For the assessment, these effects will be taken to be those for which the source begins and ends during the construction of the Proposed Development, as set out in Chapter 4 Proposed Development. The assumed assessment period for construction is Q4 2025 to Q4 2026.

10.3.43 It is anticipated that construction traffic would route north along Station Road to the B585, and then along the A511 towards Junction 22 of the M1.

10.3.44 Access to the Site is currently from Station Road on the eastern boundary of the Site. The Proposed Development will require a new access road to be created through the existing forestry track.

#### *Operation and Maintenance*

10.3.45 For the assessment, these are the effects that begin once the Proposed Development is fully operational and includes the effects of the physical presence of the infrastructure, its operation, use and maintenance, including the permanent change in land use.

10.3.46 The assessment of operational effects will be the first full 12 months of operation. The Proposed Development should become operational in Q1 2027.

### Duration of Effects

10.3.47 Timescales associated with these effects, regardless of phase are as follows unless defined differently in your relevant methodology:

- Short- term – endures for up to 12 months after construction;
- Medium-term – endures for 1-5 years;
- Long-term – endures for 5-15 years; and
- Permanent effects – endures for more than 15 years and/or effects which cannot be reversed.

## Assessment Methodology

10.3.48 The Assessment Methodology is not summarised here for brevity, rather it is presented in detailed within Appendix 10.1 (Volume 3).

## Professional Judgement

10.3.49 GLVIA version 3 places a strong emphasis on the importance of professional judgement in identifying and defining the significance of landscape and visual effects. As part of this assessment, professional judgement has been used in combination with structured methods and criteria to evaluate landscape value and landscape and visual sensitivity, magnitude and significance of effect. The assessment has been undertaken and verified by two Landscape Professionals (Chartered Landscape Architects) to provide a robust and consistent approach.



### **Key Stages of the Assessment**

- 10.3.50 GLVIA version 3 advises that landscape and visual effects should be assessed from a clear understanding of the development proposed and any mitigation measures which are being adopted.
- 10.3.51 The GLVIA version 3 methodology for landscape assessment involves an appreciation of the existing landscape resource, the susceptibility of its key components to accept the change proposed, and an understanding of the potential effects which could occur and how these could affect these key components.
- 10.3.52 Familiarity with the site and the extent, nature and expectation of existing views by visual receptors is a key factor in establishing the visual sensitivity in terms of the development proposed. The guidelines require evaluation of magnitude of change to views experienced by sensitive receptors, comprising individuals living, working, travelling and carrying out other activities within the landscape, and the subsequent evaluation of the significance of effects.

### **Assessment of Significance**

- 10.3.53 The interaction of receptor sensitivity and predicted magnitude of impact is used to determine the likely significance of effect.
- 10.3.54 Major and moderate effects are considered to be significant in the context of the EIA Regulations. Effects of moderate significance or above are therefore considered important in the decision-making process, whilst effects of minor significance or less warrant little, if any, weight in the decision-making process.

### **Assumptions and Limitations**

- 10.3.55 Site assessment was carried out during the daytime in March 2025, and views were surveyed from publicly accessible locations only. Where the views from private properties have been considered, the assessment has been carried out from the nearest publicly accessible viewpoint.
- 10.3.56 Consideration has been given to the seasonal differences in effects arising from the degree of vegetative screening and/or filtering of views that would apply in summer and winter. Thus, the assessment has been provided for 'average' and 'worst-case' situations (the latter being the season with least leaf cover and therefore minimal vegetative screening).
- 10.3.57 Whilst construction is likely to be phased across the Site, for the purposes of this assessment, it has been assumed that works would all be undertaken simultaneously as this represents the worst-case scenario.
- 10.3.58 The visual assessment and landscape assessment have assumed that existing woodland and trees beyond the Site will be retained and managed in accordance with best practice. Residual effects have been assessed using the predicted screening effects arising from existing vegetation beyond the Proposed Development, in conjunction with proposed mitigation planting, which would be managed within the Site.





## 10.4 Baseline Conditions

### Defining the Study Area

- 10.4.1 In order to establish the baseline and the potential limit of notable effects, a broad study area was adopted as the initial search area. This enabled the geographical scope of the assessment to be defined and provided the wider geographical context of the study. Within this area, the search focused on identifying the local planning policy context, national and local landscape designations and other relevant designations, in addition to providing a general geographical understanding of the Site and its broader context (for example, in relation to landform, transport routes and the distribution and nature of settlement, as well as the relationship of built form, landscape components and landform would influence the discernibility of change at the Site through its development).
- 10.4.2 Following this initial analysis, subsequent field work and having an appreciation of the Proposed Development, the assessing landscape architect has used professional judgement to determine that, in order to focus on those areas and features that are likely to be affected by the Proposed Development, the study area need only extend to 2 km from the Site boundary. However, occasional reference may be made to features beyond this area where appropriate.

### Site Location and Description

- 10.4.3 A broad description of the Site is contained in ES Chapter 4 (The Proposed Development), however, to gain a detailed understanding of the characteristics that inform local landscape character and visual receptors, it is necessary to examine the Site in further detail.

### Baseline Landscape Resources

- 10.4.4 This section considers baseline landscape character matters and identifies other landscape resource receptors that are relevant to the assessment. Baseline conditions in respect of the published local landscape character assessments are summarised below, followed by a summary of the site-specific assessment of the character of the Site and local context.
- 10.4.5 The Site is not situated within or adjoining any National or Local landscape-related designations. With consideration of the Site's context, landscape-related designations and policy considerations within 5 km of the are shown on the Site Context Figure contained in ES Figure 10.1 (Volume 2).
- 10.4.6 Recognising that 'landscape' is a multi-dimensional concept embracing 'what we see', its time-depth and physical attributes, this LVA reviews and assesses change to landscape character in terms of the physical landscape, the Site's visual and sensory character, landscape fabric and habitats and cultural connections.
- 10.4.7 The character of the landscape both at a Site level and in the wider context, is underpinned by the dimensions of the landscape. Recognising that 'landscape' is a multi-dimensional concept embracing 'what we see', its time-depth and physical attributes, this LVIA reviews and assesses change to landscape character in terms of:
- Natural Heritage (i.e., ecological, geological, geomorphological or physiographic interest);



- Cultural Heritage (i.e., archaeological, historical or cultural interest);
- Landscape Condition (i.e., physical state and overall landscape structure);
- Associations (i.e., notable people, events and the arts);
- Distinctive (i.e., sense of identity);
- Recreation (i.e., recreational opportunities where experience of landscape is important); and
- Perceptual/Scenic (i.e., appeals to the senses, primarily the visual sense).

#### National Character Assessment

- 10.4.8 The landscape of England has been subject to a nationwide Landscape Character Assessment, *'The Character of England: Landscape, Wildlife and Natural Features'* (Natural England). The Site is located wholly within the National Character Area (NCA) 71: *'Leicestershire and South Derbyshire Coalfield'*.
- 10.4.9 This National Character Area covers a large area, reaching as far north-west as Swadlincote and as far south as Newbold Verdon and Botcheston. Given our field based assessment (October 2024), it is considered, that whilst Natural England's description is broadly representative of the wider landscape, it is too generic to provide specific characterisation of the Site. For the scale of the Site and potential developable area, the description of landscape character undertaken at a more localised level are more relevant in establishing the landscape resource baseline.

#### Local Landscape Character Assessment

- 10.4.10 Baseline conditions in respect of the published local landscape character assessments are considered and detailed below.
- 10.4.11 The following landscape character assessments are of relevance to the Site:
- Hinckley and Bosworth Borough Landscape Character Assessment (September 2017).

##### Hinckley and Bosworth Landscape Character Assessment

- 10.4.12 A landscape sensitivity assessment was also undertaken for Hinckley and Bosworth Borough Council in 2017. This assessment focuses on areas identified by the Council based on existing and future pressures for development within the Borough. No areas surrounding Bagworth were identified as areas of pressure, therefore the Site does not lie within one of these areas within this document.
- 10.4.13 Within this assessment, the Site lies within Landscape Character Area (LCA) B Charnwood Fringe Settled Forest Hills which forms part of the wider Settled Forest Hills Landscape Character Type (LCT). The Bagworth Urban Character Area (UCA) lies to the south of the Site.

##### LCA B: Charnwood Fringe

- 10.4.14 This LCA is located in the north of the borough, to the west of Charnwood Forest and incorporates the settlements of Barlestone, Bagworth, and Thornton within its boundary. The 'key characteristics' of this LCA include the following (N.B. Those key characteristics which are typical of the area within which the Site is situated are underlined):



- gently undulating landform with small plateaus on higher ground and rising to the adjacent Charnwood Forest area to the east;
- contrast between areas which are visually open and enclosed depending on the elevation of the landscape and the presence of woodlands and vegetation;
- large scale irregular field pattern of mainly arable and some pasture, with smaller fields around settlements. Fields enclosed by hedgerows with scattered trees;
- industrial heritage of quarrying and mining resulting in areas of restored land;
- part of the National Forest and Charnwood Forest with areas of new woodland plantations associated with former industrial areas;
- dispersed pattern of former mining villages following a linear pattern on ridgetops, either located close to a colliery or providing housing for mine workers. Good public access and footpath network throughout, especially within National Forest area; and
- predominantly rural landscape with arable and rough set-aside, influenced by industrial/urban features such as masts, poles and pylons.

10.4.15 The assessment describes the LCA as having predominately arable land use with occasional pasture with fields being generally enclosed by hedgerows with hedgerow trees. It is also noted that within the north of the LCA where the Site lies that there are *“extensive areas of young woodland as a result of National Forest initiatives, which is having an increasing influence on the character of the area, augmenting existing woodland areas and prominent amenity trees around settlements with developing woodland on former colliery sites”*.

10.4.16 Openness and visibility within the LCA is described as being varied with *“changing topography and presence of vegetation, with the landscape more enclosed in the lower lying areas and where hedgerows and woodlands successively combine to create a well-vegetated appearance, whilst there are longer distance panoramas possible from the higher levels”*.

10.4.17 The landscape is described as being “predominately rural” although it is also noted that its *“proximity to the large settlements around Leicester and major transport routes with traffic travelling at speed does make some areas seem busy. This reduces the tranquillity of the area, especially when combined with aircraft noise overhead and urbanising features such as pylons, wind turbines, solar farms and industrial buildings which are occasionally visible”*. Away from the settlements there is less light pollution *“indicating dark skies and a stronger sense of rurality”* with the area between Bagworth, Bagworth Heath and Barlestone being identified which is located further south in the LCA than the location of the Site.

10.4.18 The assessment identifies a series of ‘key sensitivities and values’ for LCA B which include *“woodlands, copses and individual trees are important as areas of connective habitats such as hedgerows and river corridors which link to the nearby woodlands of the National Forest. They are also important for their recreational value for local communities”*, rural character away from settlements where the landscape is characterised by dark skies and a sense of tranquillity, the recreational value of the restored mining sites including Bagworth Heath Woods Country Park and the PRoW network, historic and cultural associations with mining,

10.4.19 Landscape strategies for this LCA include:

- Support the vision of the National Forest Strategy – to unify the forest area by



planting native and mixed species woodland– as well as for areas beyond the National Forest boundary, encouraging, connecting and enhancing habitats such as hedgerows, tree planting, farm woodlands and lowland meadows.

- Conserve and enhance the historic core of village settlements and ensure extensions are well integrated within this wooded landscape.
- Restore typical zones of woodland types from alder, crack willow, hazel and grey willow in valleys, to oak/birch woodland on higher slopes; developing and managing transitional scrub communities between woodland and adjoining habitats.
- The siting and design of new development should complement the existing settlement pattern. New developments, extensions or alterations should be of appropriate materials, scale, massing and location within their plot to the rural context of the area. Removal of traditional building features such as crown chimney pots and boundary walls of brick, stone, metal railings and timber fences should be avoided.
- Conserve the historic features of the landscape including industrial heritage of mining villages, railways.

10.4.20 The Site does not represent, in a perceptual or physical sense, a landscape of any great importance or distinct character. The Site and its immediate context are representative of some of the key characteristics and descriptions which are published for LCA B and are typical of this character area.

### **Site Specific Landscape Character**

#### Settlement and Land Use

10.4.21 The Site is located to the northern edge of Bagworth which is a village located c.9 miles west of Leicester. The settlement is linear in form located along Station Road and was historically associated with a colliery which operated in the village from 1828. The hamlet of Battram is located to the west of the Site off Wood Road and stretches along Battram Road. The Site itself consists of a single arable field parcel and a portion of woodland/woodland ride where the Site access is proposed to the east. The arable field is enclosed by woodland to the west, north and east. To the north and west a woodland belt stretches along Wood Road (B585) which bounds the Site with a rectangular block of woodland connected to this belt being located within the Site boundary and to the east a larger woodland block is located between the field parcel and Station Road. A series of rides are located within this woodland block associated with access and the routes of pylons and overhead wires. Wiggs Farm abuts the Site to the south-west which features a series of agricultural and commercial buildings and an access track which connects Wiggs Farm to Station Road abuts the Site to the south-east. Wiggs Farm is enclosed by hedgerow with the remainder of the track lacking boundary vegetation. Beyond the Site to the south lie further irregular shaped arable fields and a linear block of woodland which encloses the settlement of Bagworth.

10.4.22 Commercial and industrial development is located with the surrounding landscape with an Aldi Distribution Centre located to the south-west of the Site off Wood Road and Hilltop Industrial Estate, Bardon 22 Industrial Estate and Interlink Industrial Park which form a large area of commercial development being located to the west of Station Road to the north-east of the Site. Also located to the north-east are a series of quarries including Bardon Hill Quarry,



Cliffe Hill Quarry, Old Cliffe Quarry and Kellam Farm Quarry Clay pits.

#### Topography and Hydrology

10.4.23 The topography of the Site falls from the north (c.159 m AOD), east along Station Road (c.160 m AOD) and west (c.162 m AOD) to the south-eastern corner of the field parcel (c.150 m AOD). There are no hydrological features within the Site itself however there are two ponds located within the woodland to the east of the Site to the north and south of the proposed access route.

10.4.24 Within the wider study area, the topography rises to the north-east with Bardon Hill, the highest point in Leicestershire (c. 278 m AOD) being located c.4 km from the Site. Drops in the topography are created by the quarries to the north-east. The topography undulates to the north and south and falls to the west towards the River Sence with the Sence valley being a lower lying area within the study area.

#### Public Rights of Way (PRoW) and Public Access

10.4.25 Woodland surrounding the Site and partially within the Site is access land which is part of the wider National Forest provision. The closest PRoW to the Site is PRoW ref Q86 which is located to the north of Wood Road. PRoW ref Q85 runs to the south of the Site (c.145 m away at its closest point) and forms part of the National Forest Way long distance recreational route which is 75 miles long and crosses the length and breadth of The National Forest.

10.4.26 Within the wider study area there is a dense network of PRoW in all directions as well as large areas of access land in the form of woodland blocks associated with the National Forest landscape.

10.4.27 With consideration of the online map for National Cycle Routes (by Sustrans), National Cycle Route (NCR) 63 adjoins the Site to the north and east along Wood Road and Station Road. Woodland separates the Site from the NCR.

#### **Landscape Value and Sensitivity**

##### Landscape Value

10.4.28 Landscape Value: 'Having value' and 'being valued' (in the context of paragraph 180 (b)) are not one and the same. The NPPF does not provide a methodology for the assessment of landscape value; however, in *Stroud DC v SSCLG* (2015), Mr Justice Ouseley observed at (18) that to be 'valued', a piece of land should exhibit "*demonstrable physical attributes*", taking it beyond mere countryside.

10.4.29 It is clear then, that simply by virtue of being a rural land parcel outside of the existing settlement boundaries, and having some features of value, is not the same as possessing landscape value worthy of the 'protect and enhance' status afforded to landscapes under paragraph 187(a) of the NPPF.

10.4.30 GLVIA3 and the 2021 Landscape Institute TGN 02-21 assist in delivering a framework for an objective landscape assessment of value. In undertaking this appraisal, Box 5.1 on page 84 of GLVIA3 and Table 1 of TGN 02-21 identify criteria relevant to the judgements about landscape value.

10.4.31 As set out within GLVIA3, when analysing the landscape baseline, it is necessary to establish the relative value of the potentially affected landscape. Paragraph 5.19 of the GLVIA3 states that: "*A review of existing landscape designations is usually the starting point in*



*understanding value, but the value attached to undesignated landscapes also needs to be carefully considered and individual elements of the landscape such as trees, buildings or hedgerows may also have a value. All need to be considered where relevant.”*

10.4.32 The Site does not lie within a designated landscape. TGN 02/21: Assessing Landscape Value Outside National Designations identifies a range of factors that can be considered when identifying landscape value. Table 10.4 below is derived from TGN 02/21 and provides a description as to the extent the valued factors are present within the Site based upon both the published landscape character and Site specific character.

**Table 10.4: Site Specific Appraisal (March 2025)**

Aspect	Definition	Observations
Natural Heritage	Landscape with clear evidence of ecological, geological, geomorphological or physiographic interest which contribute positively to the landscape.	There are no statutory or non-statutory ecological designations covering the Site itself.  The published character assessment notes that within LCA 5 “ <i>intensive farming has resulted in only limited remnants of semi natural vegetation and there is limited biodiversity</i> ”. Woodlands planted as part of the National Forest aid in habitat connection to the wooded areas in Charnwood to the east and the wider National Forest to the north.  The natural heritage of the Site is therefore considered to be medium.
Cultural Heritage	Landscape with clear evidence of archaeological, historical or cultural interest which contribute positively to the landscape.	There are no designated heritage assets within the Site or adjoining its boundaries. The closest Conservation Area to the Site is Nailstone Conservation Area c.2.4 km to the south-west of the Site. The closest Listed Building to the Site is Grade II Listed Pickering Grange Farmhouse located c.700 m to the north-west of the Site and the closest Scheduled Monument is a moat with fishponds at Bagworth c.1.7 km to the south-east of the Site.  The wider landscape is influenced by the legacy of coal mining with a colliery previously being located within Bagworth as well as Desford Colliery located where what is now Bagworth Heath Woods Country Park.  The cultural heritage of the Site itself is therefore considered to be low.
Landscape Condition	Landscape which is in a good physical state both with regard to individual elements and overall landscape structure.	As above, the field parcel of the Site is under arable use with grass field margins. The tree survey for the Site identifies that the majority of the trees within the woodland blocks to the north and east of the Site are of moderate quality (Category B) with some scattered high quality (Category A) individual trees and the group within the north of the Site. The hedgerows comprise native species and were determined to be in fair condition with some of the hedgerow being maintained by regular flail trimming and other sections being unmaintained.  The published landscape character assessment notes the influence of industrial and urban features on the landscape although it is described as a predominantly



Aspect	Definition	Observations
		<p>rural arable landscape. The Site itself is located between the settlements of Bagworth and Battram with existing commercial development located in close proximity to the north-east and south-west.</p> <p>The condition of the Site is therefore considered to be medium.</p>
Associations	Landscape which is connected with notable people, events and the arts.	<p>The wider landscape which the Site lies within forms the National Forest landscape which is associated with regeneration of coal mining and clay extraction areas into woodlands</p> <p>However, the Site itself has no known notable cultural associations with art, literature or events in history.</p> <p>Associations are therefore considered to be medium-low.</p>
Distinctiveness	Landscape that has a strong sense of identity and whether it contains rare character or features which are considered particularly important examples.	<p>The Site and its context contain some features consistent with the published Charnwood Fringe Landscape Character Area including gently undulating landform, enclosed character due to the presence of woodland, arable land with irregular field pattern, National Forest character, former mining villages with linear pattern and a rural arable landscape influenced by industrial and urban features. These features present are generally typical and not rare across the LCA. The Site is also influenced by its wider context of the road network within lies to the north and east as well as existing commercial development located off these road routes to the south-west and north-east of the Site.</p> <p>The distinctiveness of the Site is therefore considered to be low.</p>
Recreational	Landscape offering recreational opportunities where experience of landscape is important.	<p>Open access woodland associated with the National Forest surrounds and lies partially within the Site and the National Forest provides a wider recreational resource. No PRow routes are located within the Site however NCR 63 adjoins the Site to the north and east along Wood Road and Station Road although woodland separates the Site from the NCR.</p> <p>The recreational value of the Site is therefore considered to be medium.</p>
Perceptual (Scenic)	Landscape that appeals to the senses, primarily the visual sense.	<p>The published Landscape Character Assessment notes that LCA B is a <i>"predominantly rural landscape but its proximity to the large settlements around Leicester and major transport routes with traffic travelling at speed does make some areas seem busy. This reduces the tranquillity of the area, especially when combined with aircraft noise overhead and urbanising features such as pylons, wind turbines, solar farms and industrial buildings which are occasionally visible"</i>. Existing overhead powerlines and pylons through and surrounding the Site and the adjacent built form at Wiggs Farm have an urbanising influence and traffic movement and noise is</p>





Aspect	Definition	Observations
		discernible within the context of the Site along Station Road and Wood Road. A sense of enclosure of the Site from the wider landscape is also created by the surrounding woodland blocks.  The perceptual quality of the Site is therefore considered to be low.

10.4.33 Following on from the above, in terms of landscape value, it is concluded, that the Site should not receive any elevated status beyond that intrinsic to all open countryside in accordance with Paragraph 187 (a) of the NPPF (i.e. that it should be 'recognised') and that its intrinsic value in a landscape sense does not preclude development.

#### Susceptibility of the Landscape

10.4.34 The susceptibility of the landscape resource is defined as the ability of the receptor (whether the overall character, individual fabric elements or perceptual aspects) to accommodate the Proposed Development without undue consequences for the maintenance of the baseline situation.

10.4.35 The overall landscape susceptibility of the Site itself to the proposed employment development would be medium given that it would not be wholly incongruous within its setting due to the presence of existing commercial development to the south-west and north-east of the Site and the containment afforded by the woodland block and belt surrounding the Site. The pylon lines through and surrounding the Site and adjacent road network also reduces the sense of tranquillity and rural nature of the Site and surrounding landscape.

#### Landscape Sensitivity

10.4.36 As demonstrated above, the Site overall does not have any elevated landscape value or importance above the rest of the local or wider context. Using BLA's methodology and our own analysis of the sensitivity of the landscape resource, based upon the above published description of the local context and BLA's site field work find the Site and its immediate context exhibits a medium sensitivity.

10.4.37 The sensitivity of published landscape character areas – LCA B Charnwood Fringe and NCA 71 Leicestershire and South Derbyshire Coalfield is considered to be medium. The character areas do not incorporate any national landscape designations however they do fall partially within the National Forest landscape. The published NCA and LCA contain locally important and notable features that contribute to their overall character. Development of the type proposed would not be considered to be wholly incongruous given that commercial buildings are present across the existing landscape.

#### **The Value attached to Views**

10.4.38 The value of views takes account of:

- recognition of value attached to a particular view, associated with a heritage asset, or planning designation; and/or
- indicators of the value through guidebooks, tourist maps, or historic references.

10.4.39 It is recognised that the open countryside surrounding the site is situated of any National or local landscape designation and there are no locally valued views identified in the published





material.

#### Visual Change

- 10.4.40 Visual Effects are determined according to the interaction between change and sensitivity, where effects can be either beneficial or adverse. Where the views are from a residential property, the receptor is assumed to be of high sensitivity unless otherwise stated.

#### Susceptibility Visual Change

- 10.4.41 For the purposes of this assessment, the susceptibility of people to changes in their views and visual experience is a function of the occupation of the people, the extent to which their attention or interest is focused on the views and the visual amenity they experience at a particular location.
- 10.4.42 It is noted that none of the vantage points identified by this assessment are either acknowledged or protected in policy as an important or key view, nor are any views recorded in published material on maps as being of local value or associated with an important landmark.

#### Visual Sensitivity

- 10.4.43 Visual sensitivity assesses each visual receptor in terms of their susceptibility to change in views and visual amenity and also the value attached to particular views.
- 10.4.44 At the lower end of spectrum may be those people engaged in an activity which is not focused on the landscape or context of the person/people, where the views are infrequent, the representative or specific viewpoints are not associated with a valued landscape or asset.
- 10.4.45 At the higher end of the spectrum people are engaged in an activity whereby the focus of the visual experience is linked to the landscape context, the views are associated with a valued landscape or important assets/landmarks, and the number or people and frequency of the visual experience is high to very high within National landscape settings where they would be a very high expectations of visual amenity).
- 10.4.46 Visual Sensitivity was also taken into account in the assessment, such that a given magnitude of change would create a larger visual effect on a sensitive receptor than on one of lesser sensitivity.
- 10.4.47 As discussed above for landscape sensitivity, the sensitivity of visual receptors is determined according to the susceptibility of the receptor to change and the value attached to the view in question, with higher value views being those from specific or recognised viewpoints or those from PRow where users would be expected to be using the route with the intention of enjoying the views from it.

#### Photography

- 10.4.48 Photographs were taken with a digital camera with a lens that approximates to 50 mm. This is similar to a normal human field of view, though this field of view is extended where a number of separate images are joined together as a panorama. Visibility during the site visits was good (by definitions set out on the Met Office website, i.e. visibility was between 5 to 10 km).
- 10.4.49 The Landscape Institute have produced guidance on the use of visualisations (Technical



Guidance Note 06/19, Visual Representation of Development Proposals, September 2019<sup>71</sup>). As its title suggests, this guidance is largely to do with how a proposed development is illustrated but does also contain sections on baseline photography. Section 1.2.7 states that *“Photographs show the baseline conditions; visualisations show the proposed situation”*, though it does then also go on to provide guidance for what it refers to as ‘Type 1 Visualisations’, which are in fact baseline images - ‘Annotated Viewpoint Photographs’.

- 10.4.50 The photographs included within this assessment are intended as general representations of what can be seen from the viewpoints used and are not a replacement for observing the Site and the views on the ground - any decision maker making use of this assessment should visit the Site, and the photographs are simply an aide-memoire to assist consideration following a site visit, not a replacement for it.

### Visual Amenity

- 10.4.51 The LVIA analysis focuses on the assessment of visual impacts of the development of the Site from the surrounding landscape, concentrating on the views towards the Site from surrounding public locations. Such analysis provides an understanding of the location and sensitivity of surrounding areas with views towards the Site and therefore forms the basis of an assessment of the significance of any visual impacts arising from the Site proposals.
- 10.4.52 The visual appraisal identified that the Site’s vegetated and tree’d boundaries as well as the surrounding forestry woodland blocks provide an effective containment of site’s visibility for the scale of development proposed.
- 10.4.53 It is already clear from the field-based appraisal and a review of the visual context that these features restrict views of the Site’s interior. Generally, the Site is not seen wholesale from its immediate road network which neighbours the Site, as well as the wider open countryside of the Proposed Development’s receiving environment.

### Visual Receptors

- 10.4.54 As discussed above, the opportunity for views of the Site from publicly accessible locations is limited in extent. However, users of the following locations and routes within a 2 km radius of the Site, as well as roadways local to the Site’s location.

### *Public Rights of Way and Public Access*

- 10.4.55 Woodland surrounding the Site and partially within the Site is access land which features walking routes throughout.
- 10.4.56 The closest PRoW to the Site is PRoW ref Q86 which is located to the north of Wood Road. PRoW ref Q85 runs to the south of the Site (c.145 m away at its closest point) and forms part of the National Forest Way. Within the wider study area there is a dense network of PRoW in all directions as well as large areas of access land in the form of woodland blocks associated with the National Forest landscape.
- 10.4.57 Within the wider study area there is a dense network of PRoW in all directions as well as large areas of access land in the form of woodland blocks associated with the National Forest

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<sup>71</sup> Landscape Institute (2019). *Technical Guidance Note 06/19: Visual Representation of Development Proposals*. September 2019.



landscape.

10.4.58 With consideration of the online map for National Cycle Routes (by Sustrans), National Cycle Route (NCR) 63 adjoins the Site to the north and east along Wood Road and Station Road. Woodland separates the Site from the NCR.

*Residential Dwellings and Settlements*

10.4.59 Views from private residential properties are not protected by national planning guidance or local planning policy. The visual amenity of residential receptors is considered to be of very high sensitivity. Residential receptors considered as part of the LVA are as follows, and discussed as much to demonstrate a discernible effect is likely, or unlikely due to the Site's inherent screening, and intervening landscape components and wider built form (car production plant).

10.4.60 With consideration of the plotted ZTV (see Figure 10.2; Volume 2), the following settlements are scoped out of the assessment due to very limited no intervisibility with the Proposed Development (as demonstrated by the bare-earth model) or determined through a field-based assessment (March 2025). In these situations, the effect of intervening landform is sufficient to screen the Proposed Development.

- Southern edge of Coalville situated c. 3 km north of the Site (at its closest point): Given the intervening landform, built development of Ellistown, woodland blocks and wider employment/commercial built form, it is judged that there would be no direct views of the Site;
- Ellistown situated c. 1.35 km north of the Site (at its closest point): Given the undulating landform and intervening woodland and tree canopies across agricultural farmlands, there is very limited (if any) scope to see the Site;
- Staton-under-Bardon situated c. 2.5 km east of the Site (at its closest point): As demonstrated by the plotted ZTV (Figure 10.2; Volume 2) and also Viewpoint 3, 4 and 7 (Figure 10.4; Volume 2) views of the Site (and those demonstrated with a Wireline Analysis in Figure 10.5; Volume 2) demonstrate that there are no direct views of the Site;
- Thornton situated c. 2.2 5 km southeast of the Site (at its closest point): The effect of intervening woodland blocks, in particular, Bagworth Heath Woods, is sufficient to screen the Site from direct view;
- Barlestone situated c. 3.5 km south-southwest of the Site (at its closest point): The combined effect of distance and the extensive woodland blocks restrict direct views of the Site;
- Nailstone situated c. 2.25 km west of the Site (at its closest point): as demonstrated by Viewpoint 14 (Figure 10.4; Volume 2) the effect of intervening woodland blocks is sufficient to screen the Site from direct view; and
- Ibstock situated c. 2 km northwest of the Site (at its closest point): There is extensive woodland blocks within the intervening countryside – including Common Hill Wood, Workman's Wood, Battram Wood and Grange Wood. Woodland closer to the settlement is found on elevated landform. The combination of these physical features is sufficient to screen the Site from view.

10.4.61 The Site is situated within a landscape that has scattered dwellings and settlements, with



dwelling located predominantly within nucleated settlements. Residences are not found scattered individually across the open countryside in any great number. For brevity, the following were identified as likely to experience the change proposed at the site:

- scattered farmstead and dwellings situated off the un-named lane running between the B585 (Victoria Road and West Lane) to Stanton under Bardon c. 1-2 km northeast-east of the Site;
- scattered dwellings on Wood Road c. 0.5 km southwest (at the closest location);
- scattered dwellings on Station Road (on the outskirts of Bagworth) situated c. 0.35 km southeast of the Site;
- Bagworth situated c. 0.5 km southeast of the Site;
- southern edge of Bagworth at the junction of Station Road and Bartlestone Road situated c. 1.75 km south-southeast of the Site;
- scattered dwellings at Lodge Farm and the Limes c. 1.3 km southwest (at the closest location); and
- Battram village situated within 0.2 km west of the Site (at its closest point) – see Viewpoint 14, 15 and 16 (Figure 10.4; Volume 2).

#### *Local Road users*

10.4.62 For brevity, the following were identified as likely to experience the change proposed at the Site:

- B585 (Wood Road) roadway running along the northern Site boundary, heading west from the junction of the B585 and Station Road to the west-southwest to the junction of the B585 (Wood Road)/B582 (Bagworth Road) (i.e., within c. 1/85 km southwest of the Site);
- Station Road running southeast from the junction of B585 (Wood) and Station Road running southeast towards the settlement of Bagworth (c. 0.35 km northeast and 0.75 km (southeast);
- Battram Road running from Wood Lane through Battram village to Battram Woods (c. 1 km west of the Site);
- Bartlestone Road heading southwest from Bagworth village to the B585 Garland Road (c. 1.65 south-southeast to 2.5 km south of the Site);
- B585 (Victoria Road) running northeast towards Mill Lane (c. 0.9 km northeast); and
- Un-named lane running from the B585 (junction of Victoria Road and Mill Lane) running east towards Stanton under Bardon (c. 0.95 km northeast to 2.5 km east of the Site).

#### **Representative Viewpoints**

10.4.63 Based on fieldwork observations, and the findings of the desk-based review a number of representative viewpoints have been selected, the locations of which are shown on figures contained in ES Appendix 10.1 (Volume 3), while the views themselves are shown within



Viewpoints 1 to 17 of ES Figure 10.4 (Volume 2).

- 10.4.64 Consideration has been given to the seasonal differences in effects arising from the degree of vegetative screening and/or filtering of views that would apply in summer and winter. Thus the assessment has been provided for 'average' and 'worst-case' situations (the latter being the season with least leaf cover and therefore minimal vegetative screening).
- 10.4.65 The GLVIA version 3 states a preference that the 'worst case' scenario is used for visual assessment. The actual visibility of a Site is normally greater in winter (when trees and hedgerows have no leaves). On this basis, the assessment was carried out late March 2025.
- 10.4.66 The visual assessment has assumed that existing woodland and trees beyond the Site will be retained and managed in accordance with best practice. Residual effects have been assessed using the predicted screening effects arising from existing vegetation beyond the proposed development, in conjunction with proposed mitigation planting, which would be managed within the Site.
- 10.4.67 Viewpoint Sensitivity is defined as very high to negligible based on an interpretation of a combination of parameters, as follows and defined in Table 10.5:
- location and context of the viewpoint;
  - land use or main activity at the viewpoint;
  - frequency and duration of use;
  - landscape character and quality of the intervening landscape; and
  - value attached to view.

**Table 10.5: Visual Sensitivity in relation to Main Activity at Viewpoint**

Visual Sensitivity	Land Use
Very High	<i>Value/Susceptibility to Change:</i> View is: designed/has intentional association with surroundings; recorded in published material; from a publicly accessible heritage asset/designated/promoted viewpoint; nationally/internationally designated right of way; protected/recognised in planning policy designation.
High	<i>Value/Susceptibility to Change:</i> View of clear value but may not be formally recognised e.g. framed view of scenic value or destination/summit views; inferred that it may have value for local residents; locally promoted route or PRow.
Medium	<i>Value/Susceptibility to Change:</i> View is not widely promoted or recorded in published sources; may be typical of those experienced by an identified receptor; minor road routes through rural/scenic areas.
Low	<i>Value/Susceptibility to Change:</i> View of clearly lesser value than similar views from nearby visual receptors that may be more accessible.
Negligible	<i>Value/Susceptibility to Change:</i> View may be affected by many landscape detractors and unlikely to be valued.

- 10.4.68 Details of each view, and the reason for its selection as a 'representative viewpoint', are provided in ES Table 10.6:



Table 10.6: Summary of Representative Viewpoints (March 2025/late wintertime conditions)

View	Location	OS Grid Ref	Approx Distance from the Closest Site Boundary	Reason for Selection (Site Topography: c.160-155m AOD)
1	View from Wood Road and Station Road looking southwest towards the Site.	443794, 309967	0.13 km NE/45 degrees looking SW/225 degrees	Close range view Sustrans Route 63 Topography: Situated marginally above the Site area topographically at 167 m AOD
2	View from Victoria Road (B585) to the northeast of the Site.	444447, 310474	1.1 km NE/45 degrees looking SW/225 degrees	Medium range view Well-used local roadway (B585) with Users passing between local settlements Topography: Situated marginally higher than the Site at 171 m AOD
3	View from PRoW (LPA ref: R114/1) passing across elevated landform within open countryside northeast of the Site.	445169, 310567	1.45 km NE/50 degrees looking SW/230 degrees	Long range view PRoW users passing through open countryside would have a high expectation of visual amenity, high visual sensitivity. PRoW passes along landform elevated above the Site. This is not a promoted route and does not pass through a National or locally designated landscape. Topography: Situated within elevated landform at 185 m AOD
4	View from PRoW (LPA ref: R114/1) passing across elevated landform within open countryside northeast of the Site.	445688, 310476	1.95 km NE/55 degrees looking SW/235 degrees	Long range view PRoW passes along landform elevated above the Site. This is not a promoted route and does not pass through a National or locally designated landscape. PRoW passes along landform elevated above the Site Topography: Situated within elevated landform at 189 m AOD
5	View looking southwest from Station Road closest to Ellistown.	443898, 309777	Within site S/90 degrees	Close range view situated nearest to the proposed Site Access point Viewpoint situated on Station Road Topography: 162 m AOD
6	View looking west from Station Road on the outskirts of Bagworth.	444013, 309565	0.11 km SE/135 degrees looking W-NW/290 degrees	Close range view Sustrans Route 63 Topography: Situated at a similar landform to the Site at 158 m AOD



View	Location	OS Grid Ref	Approx Distance from the Closest Site Boundary	Reason for Selection (Site Topography: c.160-155m AOD)
7	View from PRoW (LPA ref: R9/3) passing through open countryside within elevated landform to the east of the Site.	445626, 310146	1.85 km E/90 degrees looking W/270 degrees	Long range view PRoW passes along landform elevated above the Site. This is not a promoted route and does not pass through a National or locally designated landscape. PRoW passes along landform elevated above the Site Topography: Situated at a similar landform to the Site 162 m AOD
8	View from PRoW (LPA ref: Q85/3) on the outskirts of Bagworth.	444085, 308587	1.04 km SE/155 degrees looking NW/335 degrees	Medium range view passing through urban edge location. This is not a promoted route and does not pass through a National or locally designated landscape. Topography: Located at elevated landform to the Site at 170 m AOD
9	View from PRoW (LPA ref: Q85/3) on the outskirts of Bagworth.	444011, 308626	0.90 km SE/165 degrees looking NW/345 degrees	Medium to long range view. This is not a promoted route and does not pass through a National or locally designated landscape. Topography: Located at similar landform to the Site at 163 m AOD
10	View from PRoW (LPA ref: Q85/1) passing through open countryside south of the Site.	443758, 308899	0.48 km S/175 degrees looking N/5 degrees	Medium range view This is not a promoted route and does not pass through a National or locally designated landscape. Topography: Located at landform lower than the Site at 145 m AOD
11	View from PRoW (LPA ref: Q85/1) passing through open countryside south of Bagworth.	444199, 307923	1.4 km S/180 degrees looking N/0 degrees	Long range view Long distance footpath with broad views across open countryside south of the Site Topography: 163 m AOD
12	View from PRoW (LPA ref: Q85/1) passing through open countryside south of Bagworth.	443551, 309023	0.26 km SW/210 degrees looking NE/30 degrees	Close range view This is not a promoted route and does not pass through a National or locally designated landscape. Topography: Located at similar landform to the Site at 156 m AOD.
13	View from B585 roadway passing the western boundary	443318, 309240	0.14 km W-SW/240 degrees looking NE/60	Close range view Topography: Located at similar landform to the Site at 163 m AOD





View	Location	OS Grid Ref	Approx Distance from the Closest Site Boundary	Reason for Selection (Site Topography: c.160-155m AOD)
	to the Site.		degrees	
14	View from PRoW (LPA ref: Q83/5) passing through open countryside beyond the village of Battram.	442280, 309147	1.07 km W/255 degrees looking E/75 degrees	Long range view Long distance footpath with broad views across open countryside south of the Site Topography: Located at similar landform to the Site at 152 m AOD
15	View from the B585 roadway passing the western boundary to the Site.	443305, 309346	0.04 km W/270 degrees looking NE/30 degrees	Close range view Topography: Located at similar landform to the Site at 160 m AOD
16	View from the B585 roadway passing the northern boundary to the Site.	443612, 309769	0.04 km W/290 degrees looking SW/60 degrees	Sustrans Route 63 Close range view Topography: Located at similar landform to the Site at 159 m AOD
17	View from PRoW (LPA ref: Q99/1) passing through open countryside to the north of the Site.	443313, 309986	0.43 km NW/320 degrees looking SE-E/60 degrees	Close range view This is not a promoted route and does not pass through a National or locally designated landscape. Topography: Located at similar landform to the Site at 161 m AOD

## 10.5 Assessment of Effects

### Construction – Landscape Effects

#### Changes to the landscape character of the Site (direct effects)

- 10.5.1 Within the Site, construction activity will inevitably result in a high magnitude of change on the existing nature of the agricultural field and woodland and adjacent road network however this is a discrete geographical unit of the wider landscape. It is also noted that given the extensive industrial estates located within the surrounding area, the movement of plant and HGVs is not uncommon within the local area.
- 10.5.2 The existing woodland and field boundary vegetation will be retained with the exception of those sections removed to accommodate the Site access off Station Road and the woodland block within the northern portion of the Site to facilitate the proposed HGV parking. Given the presence of construction activities (including movement of site traffic, lighting, noise and sounds), and the conversion of the Site from agricultural to a commercial/employment scheme, a noticeable adverse change upon the perceptual and sensory dimension of the Site's character is not surprising during the construction stage.
- 10.5.3 The sensitivity of the landscape character of the Site is considered to be medium. The magnitude of change is considered to be high. Therefore, there are likely to be direct, temporary, short-term, adverse effects which are considered to be Moderate adverse.





- 10.5.4 The impacts identified above at the construction stage will be carefully controlled by the Detailed CEMP which will form as part of the additional mitigation strategy, and would be experienced against this existing backdrop of traffic, noise and built development at Wiggs Farm and the wider area.
- 10.5.5 Effects are adverse and significant. These are direct effects within the quantum of the Site area only and experienced on a temporary base during the construction stage.

Changes to LCA B Charwood Fringe ('Indirect Effects')

- 10.5.6 The Site forms a single field parcel and portion of a woodland block adjacent to the Bagworth Urban Character Area within the wider LCA. During the temporary construction period, construction activities (including movement of Site traffic, lighting, noise and sounds) will be ever-present during the construction process. The localised context of the Site encompasses existing agricultural and commercial development at Wiggs Farm, the adjacent road and rail network and existing industrial estates which abut the character area to the north. This is combined with the containment of the Site within the wider landscape afforded by the existing woodland surrounding it which aids in limiting the geographical extent of the change experienced.
- 10.5.7 During construction, the Proposed Development will not directly affect the wider landscape context as the physical effects of construction (i.e. changes to fabric and character) will be contained within the Site (a 'direct effect').
- 10.5.8 There will be localised excavation of land, ground remodelling and the storage of topsoil, and removal of vegetation where required to facilitate the Site access and proposals. Additionally, movement and machinery associated with the site operations will introduce additional localised activity. In the wider context, higher-level construction activities may be visible, and experienced.
- 10.5.9 The sensitivity of the landscape character of the immediate Site context within LCA B is considered to be medium. The 'key sensitivities and values' published for LCA B are largely not relevant to the immediate context of the Site besides the presence of woodland and hedgerow. The magnitude of change is considered to be high-medium. Therefore, there is likely to be a direct, temporary, short-term, adverse effect which is considered to be Moderate adverse and will extend for only the duration of the construction stage.
- 10.5.10 The impacts identified above at the construction stage will be carefully controlled by the CEMP which will form as part of the additional mitigation strategy and would be experienced against this existing backdrop of traffic, noise and built development, set within the existing landscape fabric. Effects are adverse and significant, but only experienced on a temporary base during the construction stage.

Changes to the National Character Area 71 Leicestershire and South Derbyshire Coalfield (National)

- 10.5.11 The key characteristic features which make up this area will remain unaffected by the Proposed Development; Negligible/Imperceptible.

**Operational Stage – Landscape Effects**

Changes to the landscape character of the Site (Direct Effects)

- 10.5.12 The Proposed Development will result in the Site's permanent change of use from agricultural



land to built form. The localised landscape character of the Site, particularly its interior, and its immediate surroundings will be altered by the Proposed Development, albeit where practicable existing landscape features consisting of the woodland and hedgerow to the peripheries of the Site are to be protected and retained.

- 10.5.13 The Proposed Development will introduce built elements into the Site on the existing arable field parcel and create a new access off Station Road through the woodland to the east. The proposed employment development would be within the context of existing commercial development at Wiggs Farm and along Station and Wood Road. The Proposed Development would be integrated within the existing retained landscape framework of woodland surrounding the site, allowing the Proposed Development to benefit from a level of containment from day one. The southern boundary would also be enhanced with characteristic woodland planting to further contain the Site from the south and create additional landscape and ecological connection.
- 10.5.14 The new planting would be establishing at Year 1 during the operational phase and the character of the Proposed Development would remain that of a new built out employment/industrial scheme within the containment offered by the existing woodland to the boundaries. In the short-term, it is unlikely that the proposed landscape mitigation along the southern Site boundary would provide notable addition to the character of the Site, or visual screening to proposed built form from due to its immaturity within the early years also the visual screening offered by the existing vegetation would be retained.
- 10.5.15 The sensitivity of the landscape character of the Site is considered to be medium. The magnitude of change is considered to be high/medium at Year 1. Therefore, there is likely to be a direct, permanent, medium-term, adverse effect which is considered to be Moderate adverse at Year 1.

Changes to LCA B Charwood Fringe ('Indirect Effects')

- 10.5.16 The area immediately surrounding the Site will be subject to the greatest change as a result of the Proposed Development, with perceived change predicted to diminish due to distance and intervening landscape fabric including frequent woodland blocks across the National Forest landscape and built form features including existing large commercial units, over the undulating landform.
- 10.5.17 The Site is enclosed by existing woodland and the road network to the west, north and east and is separated from residential development within Bagworth by further existing woodland. Existing commercial development is located off Station Road and Wood Road including at Wiggs Farm which abuts the Site to the south-west. The Site is also located along the northern boundary of the character area with large industrial estates located to the north outside of the boundary. The Site is enclosed by the existing mature woodland planting along its boundaries which aid in its containment within the LCA.
- 10.5.18 The Proposed Development will continue to be enclosed by this Mature boundary vegetation, as well as further new planting to the woodland edges along the Site boundaries and within the south-western portion of the Site. This portion of the Site boundary which currently lack vegetation would be enhanced with new woodland planting in line with the published landscape strategies of the LCA and the character of the wider National Forest landscape.
- 10.5.19 The published character assessment notes that there are some urbanising features within the LCA which include pylons which are present within the Site and its surrounding context as well as the presence of industrial buildings and road traffic movement and noise which are also



present within the context of the Site. These features give the Site's receiving environment a less rural character largely due to the influence of neighbouring units at Wiggs Farm and pylons and the general enclosure of the Site from the wider LCA.

- 10.5.20 Upon completion, at Year 1, due to the retention of the existing mature landscape fabric and the proposals for the proposed buildings to be located within the well-contained field parcel of the Site and set within a new landscape buffer to the south, it is not considered that the local landscape character will be dramatically altered by the Proposed Development.
- 10.5.21 This development, although appearing as newly built out, would not be experienced as being wholly incongruous at this location given the presence of other commercial development within the surrounding context.
- 10.5.22 The Proposed Development would be well contained, where views of the Proposed Development are available, they would be filtered by the proposed and existing vegetation to the Site boundaries and would be seen within the context of other commercial development within the context of the Site.
- 10.5.23 Upon completion, at Year 1, due to the retention of the existing mature landscape fabric and the enclosed nature of the Site, as well as the wider built form at this location, it is judged that the local landscape character would not be dramatically altered by the Proposed Development. The magnitude of change at Year 1 is considered to be high/medium. Therefore, there is likely to be an indirect, temporary, medium-term effect which is considered to be Moderate adverse at Year 1.

Changes to the National Character Area 71 Leicestershire and South Derbyshire Coalfield (National)

- 10.5.24 The key characteristic features which make up this area will remain unaffected by the proposed development. Negligible/Imperceptible during the operation of the Proposed Development and residually.

**Construction - Visual Effects**

- 10.5.25 This Section is to be read in conjunction with Appendix 10.2 (Volume 3) which summarises the likely visual effects during construction, and Appendix 10.3 (Volume 3) which provide a detailed analysis of the effects likely at each representative viewpoint as well as users of Public Rights of Way, local roads and residences/settlements.
- 10.5.26 The location of each representative viewpoint was agreed during consultation with the Local Planning Authority and their externally appointed landscape Consultant as part of the Applicant's Planning Performance Agreement.
- 10.5.27 The following is a summary of detailed analysis of the likely visual effects of the proposed development:

*Public Rights of Way Users*

- 10.5.28 In many situations, the wooded character area affords the Site inherent mitigation during the Construction Stage. This inherent mitigation is further enhanced through the woodland tree canopies which bound the site (Clay Quarry Wood), woodland along Station Road to the east, as well as the design of the Proposed Development to be situated within the lower lying landform of the Site.
- 10.5.29 The Proposed Development has been designed to optimise the retention of the woodland to



the Site's boundary. The combination of these factors mean that the Site is not seen wholesale from the local PRow network, with the upper elements of the new warehouse and its roof line likely to be all that might be seen by PRow users.

- 10.5.30 In many situations, the roof line would be seen glimpsed within or above the existing woodland tree canopy, with the use of cranes (if required) for the construction of the structure, which would be the most noticeable feature during the construction stage.
- 10.5.31 During this temporary phase, the likely effect on the visual amenity of PRow users would be adversely affected to the south-southwest as PRow cross the open countryside within the initial 0.5 km of the Site (see Viewpoint 10,12 and 13). In these situations, the level change within the Site is sufficient to mitigate a good proportion of the construction activities. Typically, PRow user passing along PRow (LPA ref: Q85/3) would experience between major/moderate, adverse and moderate, adverse effects during this temporary phase.
- 10.5.32 As well as PRow users outside of Bagworth where PRow users pass over elevated landform and so looking across a broad, open view towards the location of the Site; see Viewpoint 8 and 9 (Figure 10.4; Volume 2). In these situations, the PRow users would experience major/moderate, adverse effects during this temporary phase.
- 10.5.33 The effect of the Proposed Development would diminish with distance through the open countryside to the south; see Viewpoint 11 (Figure 10.4; Volume 2) whereby the new building would be seen little by PRow users. In this instance, the wooded setting of the Site and the intervening land around Bagworth is sufficient to inherently mitigate the Proposed Development. PRow users passing along would experience a moderate, adverse effect at the most.
- 10.5.34 Similar situation occurs where PRow pass within close range of the Site to the north; see Viewpoint 17.
- 10.5.35 PRow users passing PRow to the west see little of the Proposed Development during its construction stage due to the level of filtering and screening from the combined effect of intervening woodland, the woodland tree canopy of the Site, and the lower landform of the Site; see Viewpoint 17, whereby an imperceptible effect has been recorded.
- 10.5.36 To the east land rises, and PRow pass across elevated routes and PRow users are afforded broad, open views across the landscape; see Viewpoint 3, 4 and 7 (Figure 10.4; Volume 2). In these situations, new construction of the built would be screened by intervening landform, intervening built development at farmstead, a solar park, as well as intervening Woodland blocks.
- 10.5.37 There could be Potential to see cranes and lighting during construction. PRow users are likely to experience less than significant effects during construction at Moderate/-minor, adverse in the worst case scenario.
- 10.5.38 Overall, the setting of the Site is effective in inherently mitigating the visual effects of the construction stage save for PRow south of the Site where PRow route pass across elevated landform or afford broad, open views across the Site.

#### *Road Users*

- 10.5.39 Given the wooded nature of the landscape locally, combined with the woodland tree canopy edges to the site, there are no locations where Road Users are afforded direct, broad and open views of the Site.



- 10.5.40 The route of the B585 Wood Road passes the Site's northern and western edge, and the route would be little altered during the construction stage. Where the new building is situated closest to the western Site boundary, there is scope to see the western elevation. However, this would be fleeting and glimpsed, and not a broad open views as one travels along Wood Road; see Viewpoint 15 whereby a moderate, adverse level of effect would be experienced.
- 10.5.41 However, as demonstrated by Viewpoint 13 and 16 (Figure 10.4; Volume 2), the discernibility of the Site and the construction of the new warehouse building diminishes expediently within a short distance of the former location.
- 10.5.42 For user of Station Road, a similar scenario occurs where the new Site access and route into the Proposed Development will be constructed. This would require the removal of existing trees from the edge of Clay Quarry Wood, whereby there would be direct views into the Proposed Development experienced along approximately 0.15 km distance on this route. This is a marginal geographical area of this route resulting in a moderate, adverse effect.
- 10.5.43 Again, the wooded nature of this route would rapidly filter and screen views of the Proposed Development; see Viewpoint 1 and 6 (Figure 10.4; Volume 2), whereby the discernibility of the Site and the construction of the new warehouse building diminishes expediently within a short distance of the former location.
- 10.5.44 Beyond this, there are few locations whereby the construction of the Proposed Development would lead to a significant effect. The manner in which the Proposed Development is inherently mitigated by landform and woodland reduces the effects on disamenity of Road Users.

#### *Residences/Settlements*

- 10.5.45 Locally there is a dispersed settlement pattern with no residences adjoining or neighbouring the Site. A significant number of settlements were scoped out of this assessment due to the effect of intervening landform and the wooded nature of the landscape locally to the Site.
- 10.5.46 Residences in Bagworth could be effected by the Proposed Development during it being built out. The overall discernibility of the Proposed Development would be limited by the direction the dwellings is oriented, the screening effect of the wider residential built form of the village and the extent of the building seen over and above the woodland tree canopy.
- 10.5.47 In the worst case scenario whereby there would be direct views towards the Site by a residents, it is likely that these views would be from upper floor windows rather than residential rooms most likely to be used during the day (with views filtered by residential amenity planting, street trees and urban features). Visual sensitivity is considered too high.
- 10.5.48 The magnitude of change would be medium whereby the addition of the new building and its construction would be noticeable, but within a broader, unaltered context which may be noticed directly or obliquely. The resulting level of effect would be Moderate, adverse. This is a significant effect for this temporary time period.

#### **Operational Stage – Visual Effects**

- 10.5.49 This Section is to be read in conjunction with Appendix 10.4 (Volume 3) which summarises the likely visual effects during Year 1, and Appendix 10.5 (Volume 3) which provide a detailed analysis of the effects likely at each representative viewpoint as well as users of PROW, local roads and residences/settlements.



10.5.50 The location of each representative viewpoint was agreed during consultation with the Local Planning Authority and their externally appointed landscape Consultant as part of the Applicant's Planning Performance Agreement.

10.5.51 The following is a summary of detailed analysis of the likely visual effects of the Proposed Development:

*Public Rights of Way*

10.5.52 Where PRoW pass across elevated landform to the south, the effect on visual amenity of PRoW users remains significant at moderate, adverse for users of the PRoW (LPA ref: Q85/3); see Viewpoint 8 and 9 (Figure 10.4; Volume 2). Additionally, where PRoW users are passing or approaching the fields around Wiggs Farm to the south-southwest of the Site, effects are likely to be moderate, adverse (see Viewpoint 10 and 12, Figure 10.4; Volume 2).

10.5.53 Similarly, long range views of the Site from beyond Bagworth where PRoW users are passing along PRoW (LPA ref: Q85/1), would experience the completed development at Year 1. The location of the Site does not break the skyline, but the new building as proposed would be glimpsed marginally above and within the existing woodland and tree canopies.

10.5.54 As demonstrated by the Wireline Analysis contained within Viewpoint 11 (Figure 10.4; Volume 2) the upper levels and rooflines of the proposed building would be seen by PRoW users; albeit glimpsed marginally (to the western portion of the main warehouse element). In this instance, new mitigation trees planting within the Site would at Year 1 be too juvenile to reduce and offset views of the proposed built form. This would lead to a Moderate, adverse effect that would diminish rapidly with distance along this PRoW.

10.5.55 Whereas PRoW passing through the wider open countryside to the north, east and west of the Site are less likely to see the Proposed Development once operational. The effect of woodland blocks, field hedgerows and hedge lines trees combined to substantially influence the discernibility of the Proposed Development.

10.5.56 As demonstrated by the Wireline Analysis contained within Figure 10.4 (Volume 2) for Viewpoint 3, 4 and 7u (to the east), the upper levels and rooflines of the proposed building would be seen by PRoW users. In this instance, new mitigation trees planting within the Site would at Year 1 be too juvenile to reduce and offset views of the proposed built form.

10.5.57 The upper elements of the new building would be seen marginally on the skyline above the intervening woodland tree canopies. The new building would form a minor constituent of the view being partially visible or at sufficient distance to be a small component, effectively being a minor constituent of the wider broader view.

10.5.58 The wider context of the view would remain unaltered but the new building would be noticed directly and obliquely by PRoW users walking along this route. At Year 1 this would lead to a low magnitude of change resulting in a Moderate/-minor.

10.5.59 Similarly, for user of PRoW (LPA ref: Q99/1) to the north-northwest of the Site passing within close range. The upper elements of the new building would be seen within the woodland tree canopy and marginally break the skyline at its upper sections of the warehouse element of the building. At Year 1 this would lead to a low magnitude of change resulting in a Moderate/-minor.

*Road Users*

10.5.60 Generally, for Road Users passing through the assessment area, the operational warehouse





at Year 1 is unlikely to feature in any direct broad, open views. The effects of the wooded setting and the woodland tree canopy buffers to the Site are sufficient so that at most, the upper elements of the building would be seen.

- 10.5.61 However, the effect of the new access and route into the Proposed Development would remain significant along the users of Station Road on the eastern edge of the Site; see Viewpoint 5 (Figure 10.4; Volume 2).
- 10.5.62 This viewpoint demonstrates that whilst the wider Site area is generally restricted from view by Clay Quarry Wood as well as the lower landform within the new building would be built, the new site access and vehicle route into the Site would be readily experienced by Road Users passing along Station Road.
- 10.5.63 The upper elements of the new building would be seen above the existing landscape fabric. Road users pass along the western Site edge and would gain views into the Site through the new site access point.
- 10.5.64 This would lead to a discernible change to the current base line views, which not wholly character of the local area with the nearby Pall-Ex building readily seen within close range of this location on the same road, there would none the less be a discernible change.
- 10.5.65 At Year 1, the magnitude of change would be high leading to a moderate, adverse effect. However, tis effect would diminish rapidly with distance from the Site; see Viewpoint 1 and 6 (Figure 10.4; Volume 2).

#### *Residences/Settlements*

- 10.5.66 At the operation stage, those dwellings on the northern edge of Bagworth, where direct views of the Proposed Development are possible within Bagworth and the southern edge of Bagworth at the junction of Station Road and Bartlestone Road situated (c. 1.75 km south-southeast of the Site) are likely to see the Proposed Development once operational.
- 10.5.67 However, the opportunity to see the Site's interior is restricted by intervening woodland and tree canopies around Bagworth New Wood, Clay Quarry Wood and the wooded edge which wraps around Bagworth. The combination of these features is sufficient to substantially filter views of the Site.
- 10.5.68 The location of the Site does not break the skyline, but the new building as proposed would be glimpsed marginally above and within the existing woodland and tree canopies.
- 10.5.69 As demonstrated by the Wireline Analysis contained within Viewpoint 11 (Figure 10.5; Volume 2), the upper levels and rooflines of the proposed building would be seen; albeit glimpsed marginally (to the western portion of the main warehouse element). In this instance, new mitigation trees planting within the Site would at Year 1 be too juvenile to reduce and offset views of the proposed built form.
- 10.5.70 At Year 1 this would lead to a medium magnitude of change resulting in a Moderate, adverse level of effect initially.

## 10.6 Mitigation, Enhancement and Residual Effects

- 10.6.1 An understanding of the mitigation measures embedded in the Proposed Development is fundamental to an assessment of the potential landscape and visual effects. The design in terms of layout, built form height, orientation, and biodiversity enhancements has been informed by the landscape assessment LVIA in order to mitigate potential impacts.



- 10.6.2 A key principle of landscape assessment is that the assessment should take account of the effect of any proposed mitigation (GLVIA version 3, Paragraph 6.45).
- 10.6.3 Mitigation measures proposed in the ES have been formulated to avoid, prevent, reduce or, if possible, offset any identified adverse effects arising from the Proposed Development. Primary design and mitigation measures are adopted and embedded within the Proposed Development as identified within ES Chapter 4: Proposed Development, as well detailed within this section of the Environmental Statement and demonstrated on the Illustrative Landscape Masterplan (Figure 4.22; Volume 2) that have been assessed.
- 10.6.4 The LVIA and the iterative process of the EIA has sought to address the policies and guidance at National and Local level. This includes design measures which seek to secure the enhancement of the character and appearance of the landscape, particularly in urban this open countryside setting, albeit neighbouring a large car production plant and its associated infrastructure. This is through the restoration, management or enhancement of existing landscapes, features or habitats and where appropriate the creation of new ones, including the planting of woodlands, trees and hedgerows.
- 10.6.5 The masterplanning process, and the proposed development presented by the proposed Site Layout Plan has evolved upon the iterative process of the LVIA (and the wider EIA process). It has also embraced and adopted the key site-specific design principles encompassed within the Local Plan policies and the SPD, in addition to the landscape guidance published by the County Council and Local Planning Authority.
- 10.6.6 Mitigation measures are proposed for the Proposed Development in order to minimise landscape and visual effects, as well as to improve the visual appearance and assimilation of the Proposed Development into the landscape setting.
- 10.6.7 The hierarchical approach towards mitigation (prevent, reduce, offset) has been used to avoid, where possible, any effects through the overall design of the Proposed Development, the disposition of its elements (prevent) and subsequently through careful siting of the different elements of the Proposed Development and its required infrastructure (reduce).
- 10.6.8 In terms of the arboricultural resource, the masterplanning of the development layout has ensured that trees and hedgerow loss would be minimised, and the Proposed Development is consideration of the existing woodland tree canopy which encloses the Site, and as such affords the Proposed Development inherent mitigation. Inherent mitigation provides a form of preventative mitigation and as discussed above, is that which has been considered as an integral part of the overall design and locational strategy for the Proposed Development.
- 10.6.9 The following sets out the embedded measures (primary), legal requirements (tertiary) and additional measures (secondary) relevant to the assessment of Landscape Visual effects.

### Construction

#### Primary (embedded) and tertiary measures

- 10.6.10 Table 10.7 sets out the primary and tertiary (embedded) mitigation measures that will be adopted during construction and operation of the Proposed Development.

**Table 10.7: Primary and tertiary mitigation measures adopted as part of the Proposed Development**

Mitigation measure	Type	Applied to	Justification
The implementation of a	Primary and	Managing the	To offset and reduce landscape





Mitigation measure	Type	Applied to	Justification
detailed Construction Environment Management Plan (CEMP)	Tertiary (compliance with legislation)	landscape fabric retained within the Site and along its boundaries	impacts within the Site, retain and protect existing landscape fabric at the site and woodland tree canopy which encloses the Site
Tree protection measures informed by the Arboricultural Impact Assessment (AIA), which will incorporate best practice guidance set out in British Standard 5837: 2012 Trees in Relation to Design, Demolition and Construction	Primary	Managing the landscape fabric retained within the Site and along its boundaries	Ensure retained trees, woodland and other vegetation are not adversely affected during the construction process.
Ecological Management measures detailing procedures to protect habitats and species during the construction period	Primary and Tertiary (compliance with legislation)	Managing the landscape fabric retained within the Site and along its boundaries	Measures to deal with invasive species and to protect breeding birds and prevent the destruction of active nests
The adoption of an approved topsoil and earthworks management plan (Soil Management Plan), including dust control measures	Primary	Measure within Site	To manage heights of topsoil spoiling to offset and reduce visual impacts. Manage soil for the eventual landscaping of the Proposed Development .
The use of visual screening, such as hoardings for more sensitive visual receptors in proximity to the Site	Primary	Measure within Site	To manage visual impact at more sensitive locations of the proposed development.
Lighting strategy to control light pollution	Primary	Measure within Site	To manage visual impact at more sensitive locations of the proposed development.

10.6.11 Generally, the landscape and visual effects during the construction phases of the Proposed Development would be difficult to mitigate due to the nature of these operations. However, as described above, the adoption of approved best practice construction methods will aid in reducing the perception of construction activities for those receptors most likely to be affected.

10.6.12 The critical issue in considering construction effects is their temporary nature, and thus the short time period for which landscape and visual amenities would be affected to a significant degree.

Secondary (Additional) mitigation

10.6.13 None required.



## Operation

### Primary (embedded) and tertiary measures

10.6.14 Table 10.8 sets out the primary and tertiary (embedded) mitigation measures that will be adopted during construction and operation of the Proposed Development.

10.6.15 Mitigation during the operation (post completion) stage comprises embedded (avoidance) mitigation and additional mitigation proposed to reduce the significance of likely effects (reduction mitigation). These different mitigation measures are discussed below with reference to the Proposed Development.

**Table 10.8: Primary and Tertiary Mitigation Measures adopted as part of the Proposed Development**

Mitigation measure	Type	Applied to	Justification
Building designed to break up the mass of the built warehouse	Primary	Proposed architecture	To offset and reduce visual impacts
The adoption of visually recessive materials, colours and finishes within the built warehouse	Primary	Proposed architecture	To offset and reduce visual impacts
Flexible building height with elements to the building arranged at lower heights to the warehouse - officing and maintenance block (up to 16.35 m and 9.4 m respectively)	Primary	Proposed architecture	To offset and reduce visual impacts

### *Secondary (Additional) mitigation*

10.6.16 In addition to these site-wide measures, the landscaping will be managed and reinforced to contain the Proposed Development, providing site security, screening and habitat enhancement, along with aiding the integration of the Proposed Development into its landscape context when viewed from further afield.

10.6.17 The landscape strategy as illustrated in Figure 4.22: Illustrative Landscape Masterplan (Volume 2) demonstrates how the landscape design could be delivered in response to the proposed layout of the Site. Effects at Year 1 have been assessed on the basis of the proposed landscaping at the Site and through the retention of the Site's woodland setting (affording inherent mitigation benefits) and the residual (Year 15) effects on the basis of the maturation (15 years' worth of growth) of the landscape strategy (Figure 4.22; Volume 2).

10.6.18 The following summarises the additional landscape strategy mitigation as set out in the Illustrative Landscape Masterplan:

- retention of existing woodland, trees and hedgerows where practicable to retain the basis of a strong landscape framework. Where existing boundary vegetation is lacking to the south-east of the Site, new native woodland planting will be incorporated to form a new woodland belt enclosing this corner of the Site. The new woodland planting would "support the vision of the National Forest Strategy – to unify the forest area by planting native and mixed species woodland" and ensure new development is "well integrated within this wooded landscape" in line with the published landscape strategies for LCA B by creating an extension to the woodland corridor which surrounds the other edges of the Site;



- new individual tree planting, native hedgerow with hedgerow trees and mixed native scrub planting is also proposed to the peripheries of the Site and Site access. Species-rich neutral grassland is also incorporated to the Site edges and surrounding the new SuDs feature within the south-east of the Site. These elements aid in developing transitional habitats at the existing and proposed woodland edges and provided amenity benefit for users of the Proposed Development. Tree and ornamental shrub planting are also incorporated to the car park area and frontage of the warehouse to aid in breaking up the mass of the proposed hard surfacing;
- the Proposed Landscape scheme would be maintained through an appropriate Landscape Management Plan to ensure establishment and maturation of new landscaping, as well as the protection of existing landscape and woodland tree fabric (neighbouring the Site); and
- blue infrastructure for sustainable drainage (SuDS) affording ecological enhancement and landscape amenity.

10.6.19 Additionally, the proposed development allows for biodiversity net gain of 10 % which would be provided for off site.

#### **Residual - Landscape Effects**

##### Changes to the landscape character of the Site (Direct Effects)

10.6.20 Mitigation measures including the retention of the existing strong landscape framework to the west, north, and east of the Site, combined with the enhancement of the southern boundary with new woodland planting as well as new hedgerow, tree and neutral grassland planting to the other site boundaries which would have begun to mature by Year 15 would increase the containment of the Site and aid in the Proposed Development's assimilation into its landscape context.

10.6.21 This would result in a reduction of the perceived magnitude of change to medium and the residual significance of effect to direct, permanent, long-term, Moderate/Minor adverse by Year 15.

##### Changes to LCA B Charwood Fringe ('Indirect Effects')

10.6.22 Maturation of mitigation planting including the new characteristic woodland planting will further enclose the Site to the south and aid in filtering views of the Proposed Development by Year 15.

10.6.23 The magnitude of change will be marginally reduced to medium resulting in an indirect, permanent, long-term, Moderate/minor adverse effect, which would diminish rapidly with distance from the Site's location to a Minor, adverse effect due to the Site's containment in the landscape.

10.6.24 Effects are adverse. It is judged that significant effects occur at Year 1, and by Year 15 the residual effect is less than significant. This residual effect would diminish rapidly with distance from the Site.

##### Changes to the National Character Area 71 Leicestershire and South Derbyshire Coalfield



(National)

- 10.6.25 The key characteristic features which make up this area will remain unaffected by the proposed development. Negligible/Imperceptible during the operation of the Proposed Development and residually.

**Residual – Visual Effects**

- 10.6.26 This section is to be read in conjunction with Appendix 10.4 (Volume 3) which summarises the likely visual effects at Year 15 (residually), and Appendix 10.5 (Volume 3) which provide a detailed analysis of the effects likely at each representative viewpoint as well as users of Public Rights of Way, local roads and residences/settlements.
- 10.6.27 The location of each representative viewpoint was agreed during consultation with the Local Planning Authority and their externally appointed landscape Consultant as part of the Applicant's Planning Performance Agreement.
- 10.6.28 The following is a summary of detailed analysis of the likely visual effects of the proposed development:

*Public Rights of Way*

- 10.6.29 AS demonstrated by Viewpoint 3, 4 and 7 (Figure 10.4; Volume 2), those PRoW passing along the elevated landforms east of the Site are unlikely to experience a significant change in the current visual amenity.
- 10.6.30 Generally, for those PRoW passing along routes such as PRoW (LPA ref: R114/1) and PRoW (LPA ref: R9/3), whilst the upper elements of the new building would be seen. The roof line would be seen marginally above the woodland tree canopies within the view.
- 10.6.31 Overall, the new building would form a minor constituent of the view being partially visible or at sufficient distance to be a small component, effectively being a minor constituent of the wider broader view. This would lead to a less than significant effect for PRoW users to the east at moderate/minor, adverse. This is not a significant effect.
- 10.6.32 To the south those PRoW users passing to and from Baggington along PRoW routes linking with the open countryside near Wiggs Farm and beyond Wood Road, are likely to experience less than significant effects residually.
- 10.6.33 Whilst this built form would be seen in combination with the neighbouring Wiggs Farm and its associated agri-business buildings, the new building would be recognisable leading to a partial alteration to the existing baseline view. The wider context of the view would remain unaltered, but the new building would be noticed directly and obliquely by PRoW users walking along this route; see Viewpoint 8 and 9 (Figure 10.4; Volume 2).
- 10.6.34 This effect would not fundamentally alter the character of the baseline view and the underlying composition of the visual amenity of PRoW users not altered substantially leading to a low magnitude of change. The resulting level of effect would be Moderate/-minor, adverse by Year 15. The residual effect is less than significant.
- 10.6.35 From PRoW passing close to the Site in the southern field beyond Wiggs Farm, and within close range of the Site, the residual effect of the Proposed Development would continue to be less than significant; see Viewpoint 10, 12 and 13 (Figure 10.4; Volume 2).
- 10.6.36 The upper elements of the new building would be seen marginally on the skyline above the



intervening rising landform (through which the PRoW passes) and the field hedgerows. Whilst this built form would be seen in combination with the neighbouring Wiggs Farm and its associated agri-business buildings, the new building would be recognisable leading to a partial alteration to the existing baseline view. The wider context of the view would remain unaltered, but the new building would be noticed directly and obliquely by PRoW users walking along this route.

- 10.6.37 Through the establishment and maturation of new tree planting within the Proposed Development. By Year 15, this tree planting would filter views of the buildings roofline and break up the perceived mass of the single structure.
- 10.6.38 This effect would not fundamentally alter the character of the baseline view and the underlying composition of the visual amenity of PRoW users not altered substantially leading to a low magnitude of change. The resulting level of effect would be Moderate/-minor, adverse by Year 15.
- 10.6.39 To the south and west where there are PRoW passing through open countryside. As demonstrated by the Wireline Analysis contained within Viewpoint 11 (Figure 10.5; Volume 2), the upper levels and rooflines of the proposed building would be seen by PRoW users; albeit glimpsed marginally (to the western portion of the main warehouse element).
- 10.6.40 In this instance, new mitigation tree planting within the Site would have become established and maturing to filter views of the buildings roofline and break up the perceived mass of the single structure.
- 10.6.41 This effect would not fundamentally alter the character of the baseline view and the underlying composition of the visual amenity of PRoW users would not alter substantially leading to a low magnitude of change. The resulting level of effect would be Moderate/-minor, adverse by Year 15. The residual effect is less than significant.

#### *Road Users*

- 10.6.42 By Year 15, road users passing along Station Road nearest to the operational access point into the Proposed Development would continue to receive significant effects; see Viewpoint 5 (Figure 10.4; Volume 2).
- 10.6.43 At this location, there would be moderate, adverse effects residually which are significant, long-term effects. This level of effect would occur within c. 0.15 km distance of the Site access along Station Road but expediently reduce with distance from the Site access point; see Viewpoint 1 and 6 whereby the residual effect diminishes to less than significant ranging from minor, adverse to minor/-negligible, adverse residually.

#### *Residences/Settlements*

- 10.6.44 Similar to Year 1 operational stage, those dwellings on the northern edge of Bagworth and where direct views of the Proposed Development are possible within Bagworth, the operation warehouse would be discernible.
- 10.6.45 As demonstrated by the Wireline Analysis contained within Viewpoint 11 (Figure 10.5; Volume 2), the upper levels and rooflines of the proposed building would be seen. However, the opportunity to see the Site's interior is restricted by intervening woodland and tree canopies around Bagworth New Wood, Clay Quarry Wood and the wooded edge which wraps around Bagworth. The combination of these features is sufficient to substantially filter views of the Site. The resulting level of effect would be moderate, adverse residual.



- 10.6.46 This level of effect would diminish rapidly with distance. For instance, those dwellings situated to the south of Bagworth at the junction of Station Road and Bartlestone Road situated (c. 1.75 km south-southeast of the Site) are likely to also see the operation of the Proposed Development.
- 10.6.47 Through the establishment and maturation of new tree planting within the Proposed Development. By Year 15, this tree planting would filter views of the buildings roofline and break up the perceived mass of the single structure.
- 10.6.48 This effect would not fundamentally alter the character of the baseline view and the underlying composition of the visual amenity of Residents would not be altered substantially leading to a low magnitude of change. The resulting level of effect would be Moderate/-minor, adverse by Year 15.
- 10.6.49 It is important to note that this effect would only be apparent for certain part of certain properties, and not as a wholesale effect across entire residential areas.

## 10.7 Cumulative and In-Combination Effects

### Cumulative Development

- 10.7.1 Cumulative effects are those arising from impacts of the Proposed Development in combination with impacts of other proposed or consented development projects that are not yet built or operational.
- 10.7.2 Cumulative effects can arise from the intervisibility of operational or proposed developments and/or from the combined effects of individual components of the Proposed Development occurring in different locations or over a period of time.
- 10.7.3 The separate effect of such individual components or developments may not be significant, but together they may create a degree of adverse effect on the landscape resource or visual receptors within their combined visual envelopes. Schemes may have significant effects in their own right, but significant cumulative effects would not automatically arise following the addition of the Proposed Development; the significance is determined by the degree of change that the Proposed Development would introduce into the theoretical cumulative baseline.
- 10.7.4 With regard to the LCA B Charwood Fringe, this would experience a significant cumulative effect due to existing land uses and future consented cumulative schemes which are to be built out and would comprise of large warehousing and associated land uses. This would establish a cumulative effect.
- 10.7.5 The Proposed Development would lead to a physical cumulative effect, there would be very limited indirect cumulative effects due to the closed nature of the Proposed Development, and through its protection and retention of the woodland tree canopies within which the Site would be situated and sandwiched within. Given this, the existing land uses and future consented schemes are likely to be main contributor to this cumulative effect.
- 10.7.6 In terms of cumulative visual effects, while the effect of the Proposed Development at the Site would not differ, the magnitude of change experienced across the wider area would clearly be greater when taking the combined effect of the other schemes into consideration.
- 10.7.7 By the same token, it may be considered that the proportion to the total visual change attributable to the Proposed Development would be proportionately less because, the site



selected for the Proposed Development is benefitted through inherent mitigation by mature woodland tree canopies, and the Proposed Development has been designed to be located within lower lying landform for a degree of screening; and (ii). Through the existing industrial/commercial/employment-built form and mineral extraction land uses, the wider area would be more 'urbanised' and less 'rural' in its intactness through existing, established land uses, and therefore less sensitive to the introduction of urban components within the landscape; and (iii) photo viewpoints that are likely to significantly change as a result of the Proposed Development are limited to within an area of the Site i.e., along Wood Road, Station Road and views to the wider existing and potential future developments blocked through existing landscape fabric affording no broad, open view, or are restricted through landform and the generally extensively wooded character of the Site's receiving environment.

- 10.7.8 Overall, as a result of the implementation of the Proposed Development and the cumulative developments listed above, there would be an increase in massing of built development within the local context as a whole which is already 'urbanised'.
- 10.7.9 Give this, it is considered that there is likely to be only cumulative effects from the south of the Site's location - along the PRoW (LPA ref: Q85/3) and Leicestershire Round, PRoW (LPA ref: Q85/1) passing through open countryside; see Viewpoint 8, 9 and 11 (Figure 10.4; Volume 2).
- 10.7.10 However, as demonstrated by the plotted Cumulative ZTV (Figure 10.3; Volume 2), the geographical extent of Bagworth and its residential area likely to be affected by the cumulative schemes in combination with the Site is limited to the southern, higher elements of the settlement.
- 10.7.11 Additionally, the combined effect of the Site and potential cumulative scheme is similarly limited to the PRoW situated around Bagworth (Viewpoint 8 and 9) and also land to the south (Viewpoint 11) affects a relatively small geographical area.
- 10.7.12 Given that views of the Site and its operational warehouse is not wholesale and is substantially restricted through intervening woodland tree canopies, then the Proposed Development would be limited in its visibility as demonstrated by the Wire Line Analysis for each of these viewpoints within Figure 10.5 (Volume 2). It is judged therefore, that whilst the Proposed Development would lead to a cumulative effect with other schemes, the overall change to visual amenity (from locations most adversely affected by the Proposed Development) would be marginal.

## 10.8 Statement of Significance

### Construction Phase

- 10.8.1 In relation to landscape effects, significant adverse effects would arise as a result of the construction phase directly on the character of the Site itself and indirectly on the wider LCA B Charnwood Fringe LCA. The moderate adverse effects would be a result of incongruous construction activity occurring within the landscape although would be temporary in nature, lasting the duration of the construction phase. The effect on NCA 71 would be negligible/imperceptible (not significant) given the large geographical extent of the NCA which covers multiple settlements and incorporates quarries, clay works, and industrial estates where the movement of HGVs and machinery is not wholly incongruous.
- 10.8.2 In relation to visual effects, the Site is not crossed by a PRoW, or does a PRoW run along its





Site boundary, whereby PRoW users are likely to experience the most significant effects during the construction phase.

10.8.3 As detailed in Appendix 10.2 and 10.3 (Volume 3), during the construction stage, there would be significant effects experienced by the following receptors:

- PRoW (LPA ref: Q85/1) passing within close range of the Site progressing through open countryside south of the Site; see Viewpoint 10 and 12 (Figure 10.4; Volume 2). However, only the building out of the upper levels and rooflines of the proposed building would be seen by PROW users, and if cranes are used these would be seen against the skyline over this temporary phase;
- PRoW (LPA ref: Q85/3) passing through elevated landform to the south-southeast of the Site with medium range views towards the Site. Due to the intervening distance and the lack of open views of the Site's interior, the movement of plant, delivery vehicles, noise, vibration and dust are unlikely to be experienced from this location. However, there is scope to see the built form above the tree canopy outside of the Site's boundary. In the worst case scenario, PRoW users would have the potential to see cranes above the existing tree components might a crane be used for erecting the buildings framed structure and roofing; see Viewpoint 8 and 9 (Figure 10.4; Volume 2);
- Leicestershire Round, Public Right of Way PRoW (LPA ref: Q85/1) with long to very long-range views towards the Site; see Viewpoint 11 (Figure 10.4; Volume 2). Views of constructing of the new built form would be similarly restricted by woodland blocks and intervening landform. In the worst case scenario, (might) cranes be used to construct the steel framework to the building and install the roof, then these cranes might break the skyline and be seen above the woodland canopies;
- PRoW (LPA ref: Q99/1) situated to the northwest passes through open countryside within close range of the Site; see Viewpoint 19 (Figure 10.4; Volume 2). Here the effect of woodland tree canopies restrict views of the Site. Might cranes be used to construct the steel framework to the building and install the roof, then these cranes might break the skyline and be seen above the woodland canopies;
- Road users passing along Station Road nearest to the proposed site access and access route; see Viewpoint 5 (Figure 10.4; Volume 2). However, this effect diminishes rapidly as Road Users progress further north and south along this route; see Viewpoint 2 and 6 (Figure 10.4);
- Road Users progressing along Wood Road around the southwestern edge of the Site; see Viewpoint 15 (Figure 10.4; Volume 2). However, this effect diminishes rapidly as Road Users progress further north and south along this route; see Viewpoint 13 and 16 (Figure 10.4; Volume 2);
- Where there are direct views to the Site, users of Battram Road passing through Battram village would have the potential to be significantly affected by the Proposed Development. However, this level of effect would be fleeting and of a short time duration for Road Users, who are more likely to experience filtered views by the wooded tree edge to the village, or views screened views by intervening houses;
- Where there are direct views from dwellings south of the Site on Station Road (the wayside dwellings to the northern edge of Bagworth), Bagworth (where Clay Quarry Wood and New Bagworth Wood are not restricting views) and the southern edge of





Bagworth at the junction of Station Road and Bartlestone Road situated c. 1.75 km south-southeast of the Site; and

- Where there are direct views from scattered dwellings on Wood Road to the southwest. Generally, views are likely to be filtered by intervening tree cover or screened by the private amenity tree planting to properties or nearby woodland blocks.

10.8.4 As can be seen, the most likely construction activity for generating significant effects is the construction of the site access and access route from Station Road, or the use of cranes during the erection of the warehouse building. The latter is an element of the construction stage and one that would not span the entirety of the construction. In all likelihood the adversity of these effects would reduce when this stage of the construction phase is completed.

### Operational Phase

10.8.5 Significant adverse landscape effects would arise at Year 1 on both the character of the Site itself and LCA B. moderate adverse effects would be experienced due to the removal of the arable field parcel for the proposed buildings and a portion of the vegetation within the woodland block to the east of the Site to facilitate the Site access. Within LCA B the level of effect would diminish rapidly with distance from the Site to minor adverse due to the Site's containment within the landscape.

10.8.6 In relation to visual effects, the Site is not crossed by a PRoW, or does a PRoW run along its site boundary, whereby PRoW users are likely to experience the most significant effects during the operational phase.

10.8.7 As detailed in Appendix 10.4 and 10.5 (Volume 3), at Year 1, the operation of the scheme is likely to lead to significant effects on the following visual receptors:

- PRoW (LPA ref: Q85/1) passing within close range of the Site progressing through open countryside south of the Site; see Viewpoint 10 and 12 (Figure 10.4; Volume 2);
- PRoW (LPA ref: Q85/3) passing through elevated landform to the south-southeast of the Site with medium range views towards the Site; see Viewpoint 8 and 9 (Figure 10.4; Volume 2)
- Leicestershire Round, PRoW (LPA ref: Q85/1) with long to very long range views towards the Site; see Viewpoint 11 (Figure 10.4; Volume 2);
- PRoW users would, see the upper levels and rooflines of the proposed building would be seen by PRoW users; albeit glimpsed marginally (to the western portion of the main warehouse element). In this instance, new mitigation trees planting within the Site would at Year 1 be too juvenile to reduce and offset views of the proposed built form. Many parts of this route would experience much lower (not significant) effects, with those assessed presenting the worst case;
- road users on Station Road passing nearest to the operational Site access and access route into the Proposed Development. However, this significant would diminish rapidly within c. 0.15 km distance of the access through the effect of intervening land form and woodland tree canopy; see Viewpoint 1 and 6 (Figure 10.4 Volume 2). Many parts of this route would experience much lower (not significant) effects, with those assessed presenting the worst case;



- road users progressing along Wood Road around the southwestern edge of the Site; see Viewpoint 15 (Figure 10.4). However, this effect diminishes rapidly as Road Users progress further north and south along this route; see Viewpoint 13 and 16 (Figure 10.4; Volume 2). Many parts of this route would experience much lower (not significant) effects, with those assessed presenting the worst case;
- where there are direct views from dwellings south of the Site on Station Road (the wayside dwellings to the northern edge of Bagworth), Bagworth (where Clay Quarry Wood and New Bagworth Wood are not restricting views) and the southern edge of Bagworth at the junction of Station Road and Bartlestone Road situated c. 1.75 km south-southeast of the Site;
- for these dwellings and settlements, the overall discernibility of the development would be limited by the direction the dwellings are oriented, the screening effect of the wider residential built form of the village and the extent of the building seen over and above the woodland tree canopy; and
- in the worst case scenario whereby there would be direct views towards the Site by a resident, it is likely that these views would be from upper floor windows rather than residential rooms most likely to be used during the day (with views filtered by residential amenity planting, street trees and urban features).

10.8.8 As can be seen, the most adverse effects are likely to be within close range of the Site for Road Users, and to the south-southwest for PRoW users and Residential Receptors. This level of effect is experienced during the initial period of operation, at which point new mitigation planting within the Site is too juvenile to offset and reduce these effects.

10.8.9 Those receptors assessed have been done so to demonstrate the worst case scenario, for which there are varying influences of existing built form, landscape fabric, and landform which would reduce the discernibility during operation of the Proposed Development and lead to less significant effects being experienced.

#### **Mitigation, Enhancement and Residual Effects**

10.8.10 This assessment summarises all mitigation in relation to landscape and visual matters, and how these measures are secured. This includes the implementation of the proposed landscape strategy at the Site which would be managed and maintained in line with a LMP as well as the retention of the majority of the existing landscape fabric.

10.8.11 The residual landscape effects would not be significant with moderate to minor adverse effects arising for the character of the Site itself and LCA B at year 15. At this stage the proposed landscape strategy would be beginning to mature including new characteristic woodland planting which will further enclose the Site to the south. The effect on LCA B would diminish rapidly with distance from the Site and the residual effect on NCA 71 would be negligible/imperceptible.

10.8.12 In relation to visual effects, the Site is not crossed by a PRoW, or does a PRoW run along its site boundary, whereby PRoW users are likely to experience the most significant effects during the construction phase.

10.8.13 As detailed in Appendix 10.4 and 10.5 (Volume 3), at Year 15 and residually, significant effects on visual amenity would be experienced by the following:

- significant effects would be experienced by Road Users passing along Station Road



nearest the Site access and access route; see Viewpoint 5 (Figure 10.4; Volume 2). This would be Moderate, adverse residually. This level of effect would be short term in time duration and across a marginal geographical area. Many parts of this route would experience much lower (not significant) effects due to the effect of intervening landform and woodland tree canopies; see Viewpoint 1 and 6 (Figure 10.4; Volume 2) where there is likely to be Minor, adverse to Minor/-negligible, adverse level of effect;

- significant effects would be experienced by Road Users passing along Wood Road nearest the southwestern edge of the Site whereby the western elevation of the new warehouse would be seen; see Viewpoint 15 (Figure 10.4; Volume 2). This would be Moderate, adverse residually. This level of effect would be short term in time duration and across a marginal geographical area. Many parts of this route would experience much lower (not significant) effects due to the effect of intervening landform and woodland tree canopies; see Viewpoint 13 and 16 (Figure 10.4; Volume 2) where there is likely to be Minor/-negligible, adverse to an Imperceptible level of effect; and
- where there are direct views from dwellings south of the Site on Station Road (the wayside dwellings to the northern edge of Bagworth), Bagworth (where Clay Quarry Wood and New Bagworth Wood are not restricting views). It is likely there would be Moderate, adverse effects. However, this is the worst case scenario. The influence of intervening woodland blocks, residential amenity planting, street trees and urban features would restrict views. Views are assessed from upper floor windows, and so the effect on residential rooms during day time could be less than significant residually.

10.8.14 Those receptors assessed have been done so to demonstrate the worst case scenario, for which there are varying influences of existing built form, landscape fabric, and landform which would reduce the discernibility during operation of the Proposed Development and lead to less significant effects being experienced.

10.8.15 However, it is unlikely that the operation of the Proposed Development would lead to significant visual effects on the following visual receptors:

- PRoW (LPA ref: Q99/1) passing to the north-northwest of Site within close range; see Viewpoint 17 (Figure 10.4; Volume 2). PRoW Users would receive Moderate/minor, adverse effects;
- PRoW (LPA ref: R114/1) and PRoW (LPA ref: R9/3) passing across elevated landform within open countryside northeast of the site; see Viewpoint 3,4 and 7 (Figure 10.4; Volume 2). PRoW Users would receive Moderate/minor, adverse effects;
- PRoW (LPA ref: Q85/3) on the outskirts of Bagworth; see Viewpoint 8 and 9 (Figure 10.4; Volume 2) within medium range of the Site. The effect of the scheme on PRoW Users visual amenity would be mitigated through the maturation of tree planting within the Site. PRoW Users would receive Moderate/minor, adverse effects;
- PRoW (LPA ref: Q85/1) and PRoW (LPA ref: Q85/1) passing through open countryside west of Bagworth; see Viewpoint 10, 11 and 12 (Figure 10.4; Volume 2) within medium range of the Site. The effect of the scheme on PRoW Users visual amenity would be mitigated through the maturation of tree planting within the Site. PRoW Users would receive Moderate/minor, adverse effects;



- National Forest Way PRoW (LPA ref: Q83/5) passing through open countryside beyond the village of Battram; see Viewpoint 14 (Figure 10.4; Volume 2). PRoW Users would receive an Imperceptible level of effect;
- Road Users of the B585 Wood Road and Station Road passing along the wider route away from Viewport 6 and 15 (Figure 10.4; Volume 2) The effects on these routes vary more considerably, due primarily to local topography and the effect of intervening vegetation and built form, which screens, or partly screens many views. Many parts of these routes would experience less than significant effect at Moderate/minor, adverse reducing to Imperceptible;
- scattered farmstead and dwellings situated c. 1-2 km northeast-east of the Site are likely to experience an Imperceptible residual effect;
- scattered dwellings on Wood Road c. 0.5 km southwest (at the closest location) are likely to experience a Moderate/-minor, adverse residual effect where there are direct views;
- dwellings situated on the southern edge of Bagworth at the junction of Station Road and Bartlestone Road situated c. 1.75 km south-southeast of the Site are likely to experience a Moderate/-minor, adverse residual effect where there are direct views;
- scattered dwellings at Lodge Farm and the Limes c. 1.3 km southwest (at the closest location) are likely to experience a Moderate/-minor, adverse residual effect where there are direct views; and
- Battram village situated within 0.2 km west of the Site (at its closest point) are likely to experience a Minor, adverse residual effect where there are direct views.



Table 10.9: Landscape Effects Summary

Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Residual effect significance	Mitigation/Enhancement Measures	Securing mechanism	Residual Effects
Construction											
Landscape character of the Site itself	Direct	Adverse	Medium	High	Local (Site itself)	Moderate adverse	Significant	N/A	The implementation of a CEMP, CMS, AMS, Soil Management Plan, and use of visual screening such as hoarding for visual receptors within close proximity, and a lighting strategy to cover lighting during the construction phase.	Planning condition to require agreement and implementation of CEMP and other statements.	N/A
LCA B Charnwood Fringe	Indirect	Adverse	Medium	High /Medium	Borough	Moderate adverse	Significant	N/A			N/A
NCA 71 Leicestershire and South Derbyshire Coalfield	Indirect	Negligible	Medium	Negligible	National	Negligible/ Imperceptible	Not Significant	N/A			N/A
Operation											
Landscape character of the Site itself	Direct	Adverse	Medium	High / Medium	Local (Site itself)	Moderate adverse	Significant	Not Significant	The implementation of an appropriate and sensitive design in relation to the height, layout, massing and materiality of the proposed built form,	Planning condition to require compliance with detailed design plans, planning condition or obligation to require	Moderate / Minor adverse
LCA B Charnwood Fringe	Indirect	Adverse	Medium	High / Medium	Borough	Moderate adverse (locally to the Site diminishing rapidly with distance)	Significant	Not Significant			Moderate / Minor adverse (locally to the Site diminishing rapidly with distance)



Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Residual effect significance	Mitigation/Enhancement Measures	Securing mechanism	Residual Effects
NCA 71 Leicestershire and South Derbyshire Coalfield	Indirect	Negligible	Medium	Negligible	National	Negligible/ Imperceptible	Not Significant	Not Significant	retention of exiting landscape features where practicable, the implementation of the proposed on site landscape strategy and its ongoing maintenance and the provision of off site National Forest planting.	implementation of a LMP and S106 agreement to secure offsite National Forest planting contribution.	Negligible/ Imperceptible

**Table 10.10: Visual Effects Summary**

Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Residual effect significance	Mitigation/ Enhancement Measures	Securing mechanism	Residual Effects
<b>Construction</b>											
Viewpoint 1	Indirect, Temp	Adverse	Road users (transient) - Medium	Low	Medium Value	Minor, adverse	Not Significant	N/A			N/A
Viewpoint 2	Indirect, Temp	Indiscern'	Road users (transient) - Medium	No change	Medium Value	Imperceptible	Not Significant	N/A			N/A
Viewpoint 3	Indirect, Temp	Adverse	Walker (transient) – High	Low	Medium Value	Moderate/- minor, adverse	Not Significant	N/A			N/A
Viewpoint 4	Indirect, Temp	Adverse	Walker (transient) – High	Low	Medium Value	Moderate/- minor, adverse	Not Significant	N/A			N/A
Viewpoint 5	Indirect, Temp	Adverse	Road users (transient) - Medium	High	Medium Value	Moderate, adverse	Significant	N/A			N/A
Viewpoint 6	Indirect, Temp	Adverse	Road users (transient) -	Medium	Medium Value	Moderate/- minor, adverse	Not Significant	N/A			N/A

Chapter 10 Landscape and Visual

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Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Residual effect significance	Mitigation/ Enhancement Measures	Securing mechanism	Residual Effects
			Medium								
Viewpoint 7	Indirect, Temp	Adverse	Walker (transient) – High	Low	Medium Value	Moderate/- minor, adverse	Not Significant	N/A			N/A
Viewpoint 8	Indirect, Temp	Adverse	Walker (transient) – High	High	Medium Value	Major/- moderate, adverse	Significant	N/A			N/A
Viewpoint 9	Indirect, Temp	Adverse	Walker (transient) – High	High	Medium Value	Major/- moderate, adverse	Significant	N/A			N/A
Viewpoint 10	Indirect, Temp	Adverse	Walker (transient) – High	High	Medium Value	Major/- moderate, adverse	Significant	N/A			N/A
Viewpoint 11	Indirect, Temp	Adverse	Walker (transient) – High	Medium	Medium Value	Moderate, adverse	Significant	N/A			N/A
Viewpoint 12	Indirect, Temp	Adverse	Walker (transient) – High	High	Medium Value	Major/- moderate, adverse	Significant	N/A			N/A
Viewpoint 13	Indirect, Temp	Indiscern'	Walker (transient) – High	No change	Medium Value	Imperceptible	Not Significant	N/A			N/A
Viewpoint 14	Indirect, Temp	Indiscern'	Walker (transient) – High	No change	Medium Value	Imperceptible	Not Significant	N/A			N/A
Viewpoint	Indirect,	Adverse	Road	Moderate to	Medium	Moderate,	Significant	N/A			N/A





Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Residual effect significance	Mitigation/ Enhancement Measures	Securing mechanism	Residual Effects
15	Temp		users (transient) - Medium	High.	Value	adverse					
Viewpoint 16	Indirect, Temp	Adverse	Road users (transient) - Medium	Medium	Medium Value	Moderate/- minor, adverse	Not Significant	N/A			N/A
Viewpoint 17	Indirect, Temp	Adverse	Walker (transient) – High	Medium	Medium Value	Moderate, adverse	Significant	N/A			N/A
B585 (Wood Road) roadway running along the northern site boundary	Indirect, Temp	Adverse	Road users (transient) - Medium	Moderate to High.	Medium Value	Moderate, adverse	Significant	N/A	As above	As above	N/A
Station Road from the junction of B585 (Wood) and Station Road running to	Indirect, Temp	Adverse	Road users (transient) - Medium	High	Medium Value	Moderate, adverse reducing to Moderate/- minor, adverse	Significant	N/A			N/A

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Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Residual effect significance	Mitigation/ Enhancement Measures	Securing mechanism	Residual Effects
Bagworth											
Batram Road from Wood Lane through Batram village	Indirect, Temp	Adverse	Road users (transient) - Medium	High	Medium Value	Moderate, adverse reducing to Moderate/- minor, adverse	Significant	N/A			N/A
Bartlestone Road from Bagworth village to the B585 Garland Road	Indirect, Temp	Adverse	Road users (transient) - Medium	Low	Medium Value	Minor, adverse	Not Significant	N/A			N/A
B585 (Victoria Road) to Mill Lane	Indirect, Temp	Indiscern'	Road users (transient) - Medium	No change	Medium Value	Imperceptible	Not Significant	N/A			N/A
Un-named lane running from the junction of Victoria Road and Mill Lane to Stanton under	Indirect, Temp	Indiscern'	Road users (transient) - Medium	No change	Medium Value	Imperceptible	Not Significant	N/A			N/A



Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Residual effect significance	Mitigation/ Enhancement Measures	Securing mechanism	Residual Effects
Bardon											
Scattered farmstead and dwellings northeast-east	Indirect, Temp	Indiscern'	High	No change	Medium Value	Imperceptible	Not Significant	N/A	As above	As above	N/A
Scattered dwellings on Wood Road southwest	Indirect, Temp	Adverse	High	Low	Medium Value	Moderate/- minor, adverse to Imperceptible	Not Significant	N/A			N/A
Scattered dwellings on Station Road southeast	Indirect, Temp	Adverse	High	Medium	Medium Value	Moderate, adverse	Significant	N/A			N/A
Bagworth situated southeast	Indirect, Temp	Adverse	High	Medium	Medium Value	Moderate, adverse	Significant	N/A			N/A
Southern edge of Bagworth at the junction of Station Road and Bartlestone Road	Indirect, Temp	Adverse	High	Medium	Medium Value	Moderate, adverse	Significant	N/A			N/A



Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Residual effect significance	Mitigation/ Enhancement Measures	Securing mechanism	Residual Effects
Scattered dwellings at Lodge Farm and the Limes southwest	Indirect, Temp	Adverse	High	Negligible	Medium Value	Minor, adverse to Imperceptible	Not Significant	N/A			N/A
Batram village situated west	Indirect, Temp	Adverse	High	Negligible	Medium Value	Minor, adverse to Imperceptible	Not Significant	N/A	As above	As above	N/A
<b>Operation</b>											
	Direct	Adverse	Medium	High / Medium	Local (Site itself)	Moderate adverse	Significant	Not Significant	The implementation of an appropriate and sensitive design in relation to the height, layout, massing and materiality of the proposed built form, retention of exiting landscape features where practicable, the	Planning condition to require compliance with detailed design plans, planning condition or obligation to require implementation of a LMP and S106 agreement to secure offsite National	Moderate / Minor adverse
Viewpoint 1	Indirect, Long Term	Adverse	Road users (transient) - Medium	Negligible	Medium Value	Minor/-negligible, adverse	Not Significant	Negligible			Minor/negligible, adverse
Viewpoint 2	Indirect, Long Term	Adverse	Road users (transient) - Medium	Indiscernible	Medium Value	Imperceptible	Not Significant	Indiscern'			Imperceptible.
Viewpoint 3	Indirect, Long Term	Adverse	Walker (transient) – High	Low	Medium Value	Moderate/-minor, adverse	Not Significant	Low			Moderate/minor, adverse



Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Residual effect significance	Mitigation/ Enhancement Measures	Securing mechanism	Residual Effects
Viewpoint 4	Indirect, Long Term	Adverse	Walker (transient) – High	Low	Medium Value	Moderate/- minor, adverse	Not Significant	Low	implementation of the proposed on site landscape strategy and its ongoing maintenance and the provision of offsite National Forest planting.	Forest planting contribution.	Moderate/ minor, adverse
Viewpoint 5	Indirect, Long Term	Adverse	Road users (transient) - Medium	High	Medium Value	Moderate, adverse	Significant	High			Moderate, adverse
Viewpoint 6	Indirect, Long Term	Adverse	Road users (transient) - Medium	Low	Medium Value	Minor, adverse	Not Significant	Low			Minor, adverse
Viewpoint 7	Indirect, Long Term	Adverse	Walker (transient) – High	Low	Medium Value	Moderate/- minor, adverse	Not Significant	Low			Moderate/ minor, adverse
Viewpoint 8	Indirect, Long Term	Adverse	Walker (transient) – High	Medium	Medium Value	Moderate, adverse	Significant	Low			Moderate/ minor, adverse
Viewpoint 9	Indirect, Long Term	Adverse	Walker (transient) – High	Medium	Medium Value	Moderate, adverse	Significant	Low			Moderate/ minor, adverse
Viewpoint 10	Indirect, Long Term	Adverse	Walker (transient) – High	Medium	Medium Value	Moderate, adverse	Significant	Low			Moderate/ minor, adverse
Viewpoint	Indirect, Long	Adverse	Walker (transient	Medium	Medium	Moderate,	Significant	Low			Moderate/

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Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Residual effect significance	Mitigation/ Enhancement Measures	Securing mechanism	Residual Effects
11	Term		) – High		Value	adverse					minor, adverse
Viewpoint 12	Indirect, Long Term	Adverse	Walker (transient) – High	Medium	Medium Value	Moderate, adverse	Significant	Low			Moderate/ minor, adverse
Viewpoint 13	Indirect, Long Term	Adverse	Walker (transient) – High	Indiscernible	Medium Value	Imperceptible	Not Significant	Indicern'			Imperceptible
Viewpoint 14	Indirect, Long Term	Adverse	Walker (transient) – High	Indiscernible	Medium Value	Imperceptible	Not Significant	Indiscern'			Imperceptible
Viewpoint 15	Indirect, Long Term	Adverse	Road users (transient) - Medium	Medium	Medium Value	Moderate/- minor, adverse	Not Significant	Medium			Moderate/ minor, adverse
Viewpoint 16	Indirect, Long Term	Adverse	Road users (transient) - Medium	Low	Medium Value	Minor, adverse	Not Significant	Negligible			Minor/ negligible, adverse
Viewpoint 17	Indirect, Long Term	Adverse	Walker (transient) – High	Low	Medium Value	Moderate/ minor, adverse	Not Significant	Low			Moderate/ minor, adverse
B585 (Wood Road) roadway running	Indirect, Long Term	Adverse	Road users (transient) -	Low	Medium Value	Moderate/- minor, adverse reducing to	Not Significant	Low			Moderate/ minor, adverse reducing to Minor/



Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Residual effect significance	Mitigation/ Enhancement Measures	Securing mechanism	Residual Effects
along the northern site boundary			Medium			Minor/-negligible if not imperceptible					negligible if not imperceptible with distance
Station Road from the junction of B585 (Wood) and Station Road running to Bagworth	Indirect, Long Term	Adverse	Road users (transient) - Medium	High	Medium Value	Moderate, adverse (closest to the access) reducing to Moderate/-minor, adverse	Significant	High			Moderate, adverse (closest to the access) reducing to Moderate/-minor, adverse to less with distance
Batram Road from Wood Lane through Batram village	Indirect, Long Term	Adverse	Road users (transient) - Medium	Medium	Medium Value	Moderate/-minor, adverse in worst case	Not Significant	Medium			Moderate/-minor,
Bartlestone Road from Bagworth village to the B585 Garland Road	Indirect, Long Term	Adverse	Road users (transient) - Medium	Negligible	Medium Value	Minor/-negligible, adverse	Not Significant	Negligible			Minor/negligible, adverse
B585 (Victoria Road) to	Indirect, Long	Adverse	Road users (transient)	Indiscernible	Medium Value	Imperceptible	Not Significant	Indiscernible			Imperceptible

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Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Residual effect significance	Mitigation/ Enhancement Measures	Securing mechanism	Residual Effects
Mill Lane	Term		) - Medium								
Un-named lane running from the junction of Victoria Road and Mill Lane to Stanton under Bardon	Indirect, Long Term	Adverse	Road users (transient) - Medium	Indiscernible	Medium Value	Imperceptible	Not Significant	Indiscernible			Imperceptible
Scattered farmstead and dwellings northeast-east	Indirect, Long Term	Adverse	High	Indiscernible	Medium Value	Imperceptible	Not Significant	Indiscernible	As above	As above	Imperceptible
Scattered dwellings on Wood Road southwest	Indirect, Long Term	Adverse	High	Low	Medium Value	Moderate/- minor, adverse	Not Significant	Low			Moderate/ minor, adverse
Scattered dwellings on Station Road southeast	Indirect, Long Term	Adverse	High	Medium	Medium Value	Moderate, adverse (worst case)	Significant	Medium			Moderate, adverse (works case)
Bagworth	Indirect,	Adverse	High	Medium	Medium	Moderate,	Significant	Medium			Moderate,





Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Residual effect significance	Mitigation/ Enhancement Measures	Securing mechanism	Residual Effects
situated southeast	Long Term				Value	adverse (worst case)					adverse (works case)
Southern edge of Bagworth at the junction of Station Road and Bartlestone Road	Indirect, Long Term	Adverse	High	Medium	Medium Value	Moderate, adverse	Significant	Low			Moderate/ minor, adverse
Scattered dwellings at Lodge Farm and the Limes southwest	Indirect, Long Term	Adverse	High	Negligible	Medium Value	Minor, adverse to imperceptible	Not Significant	Negligible			Minor, adverse to Imperceptible
Battram village situated west	Indirect, Long Term	Adverse	High	Negligible	Medium Value	Minor, adverse to imperceptible	Not Significant	Negligible			Minor, adverse to Imperceptible



## 11. Biodiversity

### 11.1 Introduction

- 11.1.1 This Chapter of the ES presents the findings of EIA completed in relation to the construction and operational impacts of the Proposed Development on Biodiversity.
- 11.1.2 In accordance with the EIA Regulations (2017) the ecological assessment and ES chapter have been carried out by competent experts, comprising ecologists within the Chartered Institute for Ecology and Environmental Management (CIEEM). The ES Chapter has been prepared by Stuart Robinson who has over 12 years' ecological consultancy experience and Dr Holly Smith (MCIEEM) with over 19 years' ecological consultancy experience, including the production of Ecological Impact Assessments (EclA) for similar developments in recent years. Authors of technical reports to inform this assessment are set out in the relevant sections below.
- 11.1.3 This EclA identifies potential ecological constraints to the Proposed Development and indicates where avoidance and mitigation measures are necessary. It also identifies opportunities for ecological enhancement to the Site.

### 11.2 Legislative and Planning Framework

#### Relevant Legislation

- 11.2.1 The principal legislative and planning context in relation to the assessment of the effects of the Proposed Development on biodiversity is presented below.
- Wildlife and Countryside Act 1981 (as amended);
  - The Protection of Badgers Act 1992;
  - The Environment Act 2021;
  - The Conservation of Habitats and Species Regulations 2017 (as amended);
  - The Natural Environment and Rural Communities (NERC) Act 2006 – S41 Species of Principal Importance (SPI) for the conservation of biodiversity, and
  - The Countryside Rights of Way Act 2000.

#### Relevant Planning Policy

##### Local Policy

- 11.2.2 Local planning policy of relevance to biodiversity and pertinent to the Proposed Development includes the Hinckley and Bosworth Local Plan (the Local Plan adopted for the period 2006 – 2026). It is however noted that a new, draft local plan<sup>72</sup> is under consultation at Hinckley and Bosworth Borough Council, which will cover the period 2020 – 2041. There are a number of policies in the Draft Local Plan which make reference to Biodiversity. A summary of the relevant policies for biodiversity is provided in Table 11.1.

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<sup>72</sup> Hinckley & Bosworth Borough Council (2021), *Hinckley & Bosworth Local Plan 2020-2039*.



Table 11.1: Summary of Relevant Local Planning Policy

Hinckley and Bosworth Local Plan 2006 to 2026: Development Management Policies (DPM)	
DM6: Enhancement of Biodiversity and Geological Interest	<p>Development proposals must demonstrate how they conserve and enhance features of nature conservation and geological value including proposals for their long-term future management.</p> <p>Major developments in particular must include measures to deliver biodiversity gains through opportunities to restore, enhance and create valuable habitats, ecological networks and ecosystem services.</p> <p>Proposals where the primary objective is to conserve or enhance biodiversity or geological interest will be permitted where they comply with other relevant policies in the plan.</p> <p>On site features should be retained, buffered and managed favourably to maintain their ecological value, connectivity and functionality in the long-term. The removal or damage of such features shall only be acceptable where it can be demonstrated the proposal will result in no net loss of biodiversity and where the integrity of local ecological networks can be secured.</p> <p>If the harm cannot be prevented, adequately mitigated against or appropriate compensation measures provided, planning permission will be refused.</p> <p>In addition to the above, where specific identified sites are to be affected the following will be taken into account:</p> <p><i>Internationally and Nationally Designated Sites</i></p> <p>International and Nationally Designated Sites will be safeguarded.</p> <p>Development which is likely to have any adverse impact on the notified features of a nationally designated site will not normally be permitted.</p> <p>In exceptional circumstances, a proposal may be found acceptable where it can be demonstrated that:</p> <ul style="list-style-type: none"> <li>• A suitable alternative site with a lesser impact than that proposed is not available; and</li> <li>• The on-site benefits of the proposal clearly outweigh the impacts on the notified features of the site and where applicable, the overall SSSI or habitat network; and</li> <li>• All appropriate mitigation measures have been addressed through the development management process; and</li> <li>• Development likely to result in a significant effect on internationally designated sites will be subject to assessment under the Habitats Regulations and will not be permitted unless adverse effects can be fully avoided, mitigated and/or compensated.</li> </ul> <p><i>Irreplaceable Habitats</i></p> <p>Proposals which are likely to result in the loss or deterioration of an irreplaceable habitat would only be acceptable where:</p> <ul style="list-style-type: none"> <li>• The need and benefits of the development in that location clearly outweigh the loss; and,</li> <li>• It has been adequately demonstrated that the irreplaceable habitat cannot be retained with the Proposed Development; and</li> <li>• Appropriate compensation measures are provided on site</li> </ul>



Hinckley and Bosworth Local Plan 2006 to 2026: Development Management Policies (DPD)	
	<p>wherever possible and off site where this not is feasible.</p> <p><i>Locally Important Sites</i></p> <p>Development proposals affecting locally important sites should always seek to contribute to their favourable management in the long term.</p> <p>Where a proposal is likely to result in harm to locally important sites (including habitats or species of principal importance for biodiversity), developers will be required to accord with the following sequential approach:</p> <ul style="list-style-type: none"> <li>• Firstly, seek an alternative site with a lesser impact than that proposed</li> <li>• Secondly, and if the first is not possible, demonstrate mitigation measures can be taken on site;</li> <li>• Thirdly, and as a last resort, seek appropriate compensation measures, on site wherever possible and off site where this is not feasible.</li> </ul>
DM7 Preventing Pollution and Flooding	<p>Adverse impacts from pollution and flooding will be prevented by ensuring that development proposals demonstrate that: drainage function of water bodies in the borough; provided;</p> <ul style="list-style-type: none"> <li>• It will not adversely impact the water quality, ecological value or</li> <li>• Appropriate containment solutions for oils, fuels and chemicals are provided;</li> <li>• All reasonable steps are taken through design, siting and technological solutions to ensure the abatement of obtrusive light to avoid sky glow, glare and light intrusion;</li> <li>• It would not cause noise or vibrations of a level which would disturb areas that are valued for their tranquillity in terms of recreation or amenity;</li> <li>• Appropriate remediation of contaminated land in line with minimum national standards is undertaken;</li> <li>• It will not contribute to poor air quality; unstable land; and</li> <li>• It will not result in land instability or further intensify existing unstable land, and;</li> <li>• The development doesn't create or exacerbate flooding by being located away from areas of flood risk unless adequately mitigated against in line with National Policy.</li> </ul>
DM9 Safeguarding Natural and Semi-Natural Open Spaces	<p>All developments within or affecting Natural and Semi-Natural Open Spaces should seek to retain and enhance the accessibility of the space and its recreational value whilst ensuring the biodiversity and conservation value is also enhanced.</p> <p>Development within areas of Natural and Semi-Natural Open Space, as defined on the policies map, will only be considered appropriate where:</p> <ul style="list-style-type: none"> <li>• The proposal relates to the enhancement of the area for recreational purposes and only where this does not lead to the loss or damage of the area's biodiversity value; or</li> <li>• It relates to the enhancement of the area's biodiversity or conservation value; or</li> </ul>



#### Hinckley and Bosworth Local Plan 2006 to 2026: Development Management Policies (DPD)

	<ul style="list-style-type: none"> <li>• It would promote the establishment and enhancement of pedestrian footpaths and cycleways; or</li> <li>• If within the National Forest, it contributes to the delivery of the National Forest Strategy in line with Core Strategy Policy 21; and</li> <li>• If within a Green Wedge, it protects its role and function in line with Core Strategy policies 6 and 9.</li> </ul>
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#### National Planning Policy

11.2.3 National Planning Policy Framework (NPPF)<sup>73</sup> is the top tier of planning policy. The Framework provides guidance to local authorities and other agencies on planning policy and the operation of the planning system. Section 15 relates to 'Conserving and enhancing the natural environment'. Relevant paragraphs are:

11.2.4 "192. To protect and enhance biodiversity and geodiversity, plans should:

- a) *Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and*
- b) *promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity."*

11.2.5 "193. When determining planning applications, local planning authorities should apply the following principles:

- a. *if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- b. *development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the Site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
- c. *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*
- d. *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure*

<sup>73</sup>

National Planning Policy Framework (2024). Department for Levelling Up, Housing and Communities. Published 12 December 2024 (updated 7 February 2025).



*measurable net gains for biodiversity or enhance public access to nature where this is appropriate.*

11.2.6 “194. The following should be given the same protection as habitats sites:

- a) *potential Special Protection Areas and possible Special Areas of Conservation;*
- b) *listed or proposed Ramsar sites; and*
- c) *sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.*

11.2.7 “195. The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.”

### 11.3 Assessment Approach

#### Consultation

11.3.1 A Scoping Opinion was provided by Hinckley and Bosworth Borough Council. A copy of the Scoping Opinion can be found in Appendix 1.4 (Volume 3) of the ES. Natural England gave general advice which included that “a District Level Licence (DLL) for great crested newts (GCN) may be available in that area” and that “by demonstrating that DLL will be used, impacts on GCN can be scoped out of detailed assessment in the Environmental Statement”. However, contact with Natural England later indicated that DLL was not available due to insufficient supply of mitigation ponds, so GCN have been scoped into this assessment.

11.3.2 Hinckley and Bosworth Borough Council requested consideration of “the key potential impacts that may occur are habitat loss / disturbance, habitat fragmentation, increased noise / vibration and visual disturbance, impacts on nationally and locally designated sites of nature conservation importance in the vicinity, changes to the proposed light emissions potentially causing impacts on local bat and bird populations, pollution effects on habitats and species in the area.” A requirement for demonstrating Biodiversity Net Gain (BNG) was also requested using a Biodiversity Metric.

#### Baseline Data Methodology

11.3.3 This EclA draws upon work undertaken by Harris Lamb Property Consultancy (Appendix 11.1; Volume 3) which forms the baseline data for this assessment. In addition to this work site surveys were undertaken by Stuart Robinson (Envance) and Dr Holly Smith (Envance) in April and May 2025 to verify data provided and supplement where required as set out in the methodology below.

11.3.4 This EclA has been undertaken in line with current best practice guidance (CIEEM, 2024)<sup>74</sup> and includes:

- A desk-based assessment to identify any records of protected and/or notable

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<sup>74</sup> CIEEM (2024) Guidelines for Ecological Impact Assessment, Version 1.3. Chartered Institute of Ecology and Environmental Management, Winchester



habitats and species, and designated nature conservation sites in the vicinity of the Site (HLPC) (Appendix 11.1; Volume 3).

- A Site survey comprising an UK Habitats classification Survey including the recording of any evidence of the presence of protected, priority and/or Invasive Non-Native Species (INNS) (HLPC & Envance).
- An assessment of the potential impacts of the works on the habitats and species present at the Site and the surrounding areas (Envance).
- The design of suitable mitigation and avoidance measures to ensure ecological impacts are kept to a minimum and proposals for suitable enhancement measures (Envance).

11.3.5 The use of Statutory Biodiversity Metric (SBM) to calculate BNG (Envance) (Appendix 11.2; Volume 3).

#### Desk Study

11.3.6 The desktop study was undertaken by HLPC on 16<sup>th</sup> January 2024 and data sources included:

- Leicestershire & Rutland environmental records centre (LRERC) (records post-2000),
- Multi Agency Geographic Information for the Countryside (MAGIC) website<sup>75</sup>,
- Ordnance Survey (OS)<sup>76</sup>, and
- Aerial imagery.

11.3.7 The geographical extent of the search area for biodiversity information was related to the significance of sites and species and potential zones of influence which might arise from development within the Site. For this Site the following search areas were considered to be appropriate:

- 10 km around the Site boundary for sites of International Importance (e.g. Special Area of Conservation (SAC), Special Protection Area (SPA), Ramsar site).
- 2 km around the Site boundary for sites of National or Regional Importance (e.g. SSSI), protected or otherwise notable species and non statutory designated sites of County Importance (e.g. Local Wildlife Sites (LWS)).
- 1 km for ancient woodland, and
- 2 km for biological records (post-2000).

#### Site Survey Methodology

11.3.8 The following section summarises the methodology used to gather ecological data to inform this assessment (Table 11.2). Further methodology can be found in Appendices 11.1-11.5.

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<sup>75</sup> MAGIC (2025) Multi-Agency Geographic Information for the Countryside.

<sup>76</sup> Ordnance Survey (2025) Ordnance Survey Mapping and Data Services.



Table 11.2: Summary of HLPC survey methodology

Receptor	Date of Survey(s)	Summary of Methodology (see Appendix 11.1 for details)
Habitats	20 <sup>th</sup> May 2024	UKHabitat Classifications V2. Ukhabs (2024)
Badger	20 <sup>th</sup> May 2024	Harris <i>et al</i> (1989)
Bats	15 <sup>th</sup> April 2024 17 <sup>th</sup> August 2024 18 <sup>th</sup> September 2024	Ground Level Tree Assessment Night-time Bat Walkover Static bat detector Collins (2023)
Birds	April 2024 – June 2024	Reduced Common Bird Census Methodology. Gilbert <i>et al</i> (1998) and Bibby <i>et al</i> (2000)
Great crested newts (GCN)	15 <sup>th</sup> April 2024 16 <sup>th</sup> May 2024	Habitat Suitability Assessment. Oldham <i>et al</i> (2000) eDNA sampling. Biggs <i>et al</i> (2018)
Reptiles	7 <sup>th</sup> May 2024 to 7 <sup>th</sup> June 2024	Froglife (1999)

11.3.9 In addition to the above Envance carried out the following additional field surveys:

- UK Habs verification survey by Dr Holly Smith and Stuart Robinson 2<sup>nd</sup> April 2025, 22<sup>nd</sup> April 2025 and 9<sup>th</sup> May 2025.
- Badger survey by Dr Holly Smith and Stuart Robinson 2<sup>nd</sup> April 2025.
- GCN population survey led by Stuart Robinson between April and May 2025.
- Ground-level Tree Assessment (GLTA) trees in April 2025.

11.3.10 Survey methods for these additional surveys are provided in Table 11.3.

Table 11.3: Summary of Envance survey methodology

Receptor	Summary of Methodology
Habitats	<p>The Site validation survey undertaken by Dr Holly Smith MCIEEM and Stuart Robinson AEnvCoW (Natural England protected species survey licence holder for GCN (licence No. 2015-18334-CLS-CLS)) on 2nd April 2025. The survey followed the UK Hab survey methodology (Butcher <i>et al.</i>, 2020), where the habitats and vegetation types present were recorded, together with an indication of their relative abundance. This survey method aims to characterise habitats and communities present and is not intended to provide a complete list of all species occurring across the Site.</p> <p>UKHab is a habitat classification system designed to support the evaluation of habitats for ecological impact assessment and net gain analysis. It has been designed to integrate with other UK classification systems such as Phase 1 habitat methodology (JNCC, 2016) and is becoming widely accepted as the new standard for habitat surveying within the UK.</p> <p>Notable, rare or scarce plant species were highlighted if present. Evidence of protected species or species of nature conservation importance was recorded where present at the time of survey.</p>





Receptor	Summary of Methodology
	Invasive plant or animal species listed on Schedule 9 of the Wildlife and Countryside Act (1981) (as amended) were recorded as seen.
GCN	Presence - absence surveys were undertaken from April to May 2025. Surveys followed the methodology detailed within GCN Conservation Handbook <sup>77</sup> and comprised bottle trapping, torch surveys and egg searches. During the surveys, the turbidity and vegetation cover was estimated and scored on a scale of 1 (clear/no vegetation) to 5 (very turbid/pond obscured by vegetation) (see Appendix 11.5 (Volume 3) for more details).
Badgers	All habitats considered suitable to support badgers within the Site boundary (and accessible land within 30 m) were assessed for their suitability to support badgers on 2nd April 2025. Methodology employed drew on that outlined by Harris, Creswell and Jefferies (1989 <sup>78</sup> ).

#### Biodiversity Net Gain Methodology

- 11.3.11 A review of all available data sources has been undertaken in order to classify the habitats currently present within the Site, identify their strategic significance, and assign a habitat condition.
- 11.3.12 Baseline biodiversity values have then been calculated using the current version of the Statutory Biodiversity Metric (SBM)<sup>79</sup>. Condition values have been assigned according to the condition criteria outlined within the metric, with strategic significance determined by the presence of local and national strategic sites or the function of habitat within the wider landscape (i.e. through facilitating habitat connectivity). Appendix 11.2 (Volume 3) provides data relating to the SBM.
- 11.3.13 The Illustrative Landscape Masterplan Figure 4.22 (Volume 2) was referred to calculate the area, type, and condition of each predicted habitat once the development is implemented provided by BLADE. Predicted habitats have been derived from the development plan and classified using UKHab methodology, with habitat conditions predicted by the expected state of each habitat following appropriate management over the defined management period in comparison with their associated condition criteria.
- 11.3.14 The Statutory Biodiversity Metric was used to calculate the predicted net change in the biodiversity value of the Site by comparing the existing baseline biodiversity value against the predicted post-development biodiversity value.
- 11.3.15 All habitat measurements were made using digital mapping software (QGIS Geographic Information System version 3.36.1) or derived from measurements provided by the landscape architect.

#### Assessment Methodology

- 11.3.16 This Section evaluates the nature conservation importance of the Site in terms of its relative importance in a geographical context.
- 11.3.17 The nature conservation sites, habitats and species that have been identified as Important

<sup>77</sup> Langton, T.E.S., Beckett, C.L., and Foster, J.P. (2001), Great Crested Newt Conservation Handbook, Froglife, Halesworth

<sup>78</sup> Harris, S, Cresswell, P, & Jeffries, J. (1989) Mammal Society Occasional Publication No, 9. Mammal Society, London

<sup>79</sup> DEFRA (2024) The Statutory Biodiversity Metric, User Guide (draft)



Ecological Features does have been evaluated based on the criteria given in Table 11.4. The importance of the feature is defined with reference to the geographical context of the Site i.e. the specific importance of the Site to each of the habitats or species populations identified as being present within it or making use of it.

11.3.18 Individual ecological receptors (habitats and species that could be affected by the Proposed Development) were assigned levels of importance for nature conservation in one of the following categories:

- International;
- UK;
- National;
- County;
- District;
- Local; or
- within the immediate zone of influence only which is considered to be Site level.

11.3.19 For a given receptor, determination of value includes consideration of the size, conservation status and quality of the species, population or habitat feature.

#### Valuation of Habitats

11.3.20 Some sites are automatically assigned a nature conservation value through designation. The reason for designation is taken into account in assessing potential impacts. Designated sites are considered at the following levels:

- International – Special Areas of Conservation (SAC), Special Protected Areas (SPA) and Ramsar Sites.
- National – Sites of Special Scientific Interest (SSSI) in England.
- County or District – sites designated by Local Authorities or County Wildlife Trusts and others.
- Local – Site - sites not designated (potential or candidate sites) by Local Authorities or County Wildlife Trusts and others.

11.3.21 The reason for designation is taken into account in assessing potential impacts. Habitats that are not subject to specific nature conservation designations have been valued against habitats included in the Section 41 list (list of species and habitats of principal importance in England) as required under Section 41 of the Natural Environment and Rural Communities [NERC] Act, 2006 (e.g. Priority Habitats).

11.3.22 In determining values of habitats consideration has also been given to national and local Habitat Action Plans and the Ancient Woodland Inventory (AWI). This consideration has been given in conjunction with critical appraisal of the size, status and quality of the habitat affected.

#### Valuation of Species Populations

11.3.23 In ascribing values to populations of species, consideration has been given to the legal status of species, as well as their population size and conservation status on the Site and within the geographic area. Certain species receive protection under various pieces of legislation, and



this has been taken into account when determining value. Legislation considered includes:

- Wildlife and Countryside Act 1981 (as amended);
- The Protection of Badgers Act 1992;
- The Conservation of Habitats and Species Regulations 2017 (as amended);
- The Natural Environment and Rural Communities (NERC) Act 2006 – S41 Species of Principal Importance (SPI) for the conservation of biodiversity, and
- The Countryside Rights of Way Act 2000.

11.3.24 The rarity of the species in the context of status, i.e., whether populations of a species are declining either nationally or at a more local level has also been considered.

11.3.25 The presence of invasive alien species or injurious weeds is considered to represent an ecological dis-benefit.

#### Scoping

11.3.26 In scoping the likely important ecological features of the Site consideration was given to:

- location, size, extent and spatial organisation of infrastructure and activities, including ancillary development;
- lifetime of project (decommissioning not considered relevant here);
- activities likely to cause bio-physical changes during construction, operation and their timing, frequency, duration, location, extent and magnitude e.g. emissions (type, volume, range), construction activities etc.;
- zone(s) of influence of the activities, including activities off site that may be relevant, such as access route construction;
- other developments within the zone(s) of influence for which consent has been or is likely to be granted (cumulative);
- pathway for emissions (e.g. water, soil or air) and the receiving environment;
- best and worst case operating conditions including construction practices that could affect biodiversity, and
- proposed measures designed to deliver biodiversity enhancements.

11.3.27 A review of baseline data provided by HLPC and an understanding of the Proposed Development and scoping the EclA with the LPA (see Appendix 1.3 and Appendix 1.4; Volume 3) identified a list of the ecological features to be given detailed consideration in the EclA.

11.3.28 In determining the baseline condition of the Site, the HLPC reports and verification walkover and surveys set out below were used. Ecological data were collected within one to two years prior to an EclA being written and development activities are anticipated to start within one or two years after. As such the ecological data may represent a reliable indication of the baseline conditions.

#### Method of Impact Assessment

11.3.29 The assessment of ecological impacts has been undertaken following current best practice provided by the Chartered Institute of Ecology and Environmental Management (CIEEM,



2024<sup>80</sup>).

11.3.30 The zone of influence draws on Box 10 of the CIEEM (204) guidelines. This assessment identifies the potential effects of the Proposed Development on biodiversity within the Site boundary and wider Zone of Influence extending up to 10 km from the Site depending on the type of impact and ecological feature under consideration and unless otherwise stated. It determines the significance of the identified effects for the construction and operational Phases only.

11.3.31 Ecological features include nature conservation sites, habitats, species assemblages/communities or populations or groups of species. The assessment of the significance of predicted impacts on ecological features is based on both the 'importance' of a feature and the nature and magnitude of the impact that the project will have on it. Impacts may be direct (e.g., the loss of species or habitats), or indirect (e.g. effects due to noise, dust or disturbance). The impact assessment process involves:

- Identifying and characterising impacts.
- Incorporating measures to avoid and mitigate (reduce) these impacts.
- Assessing the significance of any residual effects after mitigation.
- Identifying appropriate compensation measures to offset residual effects.
- Identifying opportunities for ecological enhancement.

11.3.32 The assessment includes potential impacts (direct, indirect, secondary and cumulative) on each ecological feature determined as important from all phases of the project and describes in detail the impacts that are likely to be significant, making reference to the following characteristics as set out in CIEEM (2018):

- Positive or negative
- Extent
- Magnitude
- Duration
- Timing
- Frequency
- Reversibility

11.3.33 The key sources of impact to the nature conservation interests of the area resulting from the implementation of the Proposed Development may arise as direct and indirect effects, examples of which are given below:

#### Direct effects

- Direct mortality as a result of construction activity.
- Habitat loss (land-take), where the severity of impact is directly related to the amount of habitat lost and the conservation value of that habitat.

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<sup>80</sup> CIEEM (2024) Guidelines for Ecological Impact Assessment in the UK and Ireland



- Habitat fragmentation (severance of habitats and/or wildlife corridors linking them). This can lead to reduced genetic diversity and increase the likelihood of species being lost.

#### Indirect effects

- Including disturbance (visual, noise or vibration), dust deposition, incidental vehicle trafficking, water discharges and surface runoff. These impacts may affect habitats both within and outside the footprint of the Proposed Development.
- Impacts may be either temporary or permanent in nature. Temporary effects typically occur during the construction phase of a scheme. It should be appreciated that temporary impacts on habitats of high ecological value may have as great or greater impact as permanent loss of less valuable habitats.
- The magnitudes of impacts are evaluated in terms of their predicted effect on the integrity of an ecological receptor, where integrity is defined as “*the coherence of ecological structure and function that enables the feature to be maintained in its present condition*” (IEEM, 2006). Consideration is given to the nature and duration of the disturbance, its reversibility, timing, and frequency as well as any cumulative effects and the potential for impact avoidance or minimisation.

#### Defining Significance

- 11.3.34 After assessing the impacts of the proposal, all attempts should be made to avoid and mitigate ecological impacts. Once measures to avoid and mitigate ecological impacts have been finalised, assessment of the residual impacts are undertaken to determine the significance of their effects on ecological features (CIEEM, 2024).
- 11.3.35 For the purpose of EclA, ‘significant effect’ is an effect that either supports or undermines biodiversity conservation objectives for ‘important ecological features’ (here taken to be those receptors reported within this EIA).
- 11.3.36 Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national/local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales from international to local.
- 11.3.37 A significant effect is simply an effect that is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project. A significant effect does not necessarily equate to an effect so severe that consent for the project should be refused planning permission.
- 11.3.38 In broad terms, significant effects encompass impacts on the structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent, abundance and distribution). The scale of significance of an effect may not be the same as the geographic context in which the feature is considered important.
- 11.3.39 The evaluation of significant effects should always be based on the best available scientific evidence proportionate to the severity of those effects. If sufficient information is not available further survey or additional research may be required. In cases of reasonable doubt, where it is not possible to robustly justify a conclusion of no significant effects, mitigation/compensation measures should be applied in accordance with the precautionary principle. Where uncertainty exists, it must be acknowledged in the EclA.



11.3.40 Table 11.4 shows the factors that have been considered in the determination of significant effects on ecological features.

**Table 11.4: Determining Ecologically Significant Effects**

Ecological Feature	Consideration
Designated sites	<p>Will the project undermine the Site's conservation objectives?</p> <p>Will the project positively or negatively affect the conservation status of habitats or species for which the Site is designated?</p> <p>Will the project have positive or negative effects on the condition of the Site or its interest/qualifying features?</p> <p>Will the project remove or change any key characteristics?</p> <p>Will there be an effect on the nature, extent, structure, and function of component habitats?</p> <p>Will there be an effect on the average population size and viability of component species?</p> <p>Will there be an impact on wider ecosystem functions and processes?</p>
Habitats	<p>Will the project positively or negatively affect the conservation status of the habitat?</p> <p>Will it affect its extent, structure, and function as well as its distribution and its typical species within a given geographical area?</p>
Species	<p>Will the project positively or negatively affect the conservation status of the species?</p> <p>Will it affect its abundance and distribution within a given geographical area?</p>

11.3.41 The project team confirmed any relevant plans or projects with the potential to act in combination with the Proposed Development which could increase the impact on the Site's biodiversity.

#### **Limitations to the Assessment**

11.3.42 The assessment for non-statutory designated sites is based on site citations provided by the local biological record holder and no visits have been made to designated sites.

11.3.43 Any absence of desk study records cannot be relied upon to infer absence of a species/habitat as the absence of records may be a result of under-recording within the given search area.

11.3.44 Ecological surveys are limited by factors that affect the presence of plants and animals, such as the time of year, weather, migration patterns and behaviour.

11.3.45 The botanical survey does not constitute a Phase 2 pre-construction survey that would include accurate GIS mapping for invasive or protected plant species.

11.3.46 Attention was paid to the presence of any invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). However, the detectability of such species varies due to a number of factors, e.g. time of year, site management, etc., and hence the absence of invasive species should not be assumed even if no such species were detected during the Phase 1 survey.

11.3.47 The majority of ecological data remain valid for only short periods due to the inherently



transient nature of the subject. The survey results contained in this report are considered accurate for one to two years, assuming no significant considerable changes to the Site conditions.

11.3.48 The Breeding Bird Survey was commissioned at a time when the access route was not confirmed. As such a buffer was applied to the Site and the survey was extended to include this buffer area. This buffer area covered the confirmed access route and as such is not considered to be a significant limitation to this assessment.

11.3.49 A final BNG assessment will be provided under the Biodiversity Gain Condition together with the associated detailed habitat management information.

11.3.50 It should be noted that numbers in the SBM are calculated to two decimal places, which in some instances may result in minor totalling errors due to rounding.

## 11.4 Baseline Conditions

### Site Description and Context

11.4.1 The Site is situated within a predominantly semi-rural landscape. The Site is largely comprised of a large arable field with native hedgerows along the majority of the field boundaries. Areas of plantation broadleaved woodland were recorded adjacent to the north, west and east of the arable field, which extend into the wider ownership boundary. Arable land and a cluster of buildings associated with 'SLB Supplies' are located adjacent to the southern Site boundary.

11.4.2 Without the Proposed Development the Site conditions are considered to remain relatively unchanged with active agricultural production and management of the plantation forest which will continue to grow in maturity.

### Protected Sites

11.4.3 No internationally designated site for nature conservation were recorded within 10 km of the Site boundary.

11.4.4 No nationally designated sites for nature conservation were recorded within 2 km of the Site boundary.

11.4.5 The Site falls within a Site of Special Scientific Interest (SSSI) Risk Impact Zone, however the type of development 'logistics warehousing' does not trigger the specific requirement to consult Natural England on the Proposed Development.

11.4.6 Fourteen non-statutory designated sites for nature conservation (Local Wildlife Sites (LWS), Potential LWS [pLWS], candidate LWS [cLWS] and notified LWS [nLWS]) and Pocket Parks were identified within 2 km of the Site (see Appendix 11.1; Volume 3).

11.4.7 The nearest LWS is Bagworth Clay Quarry Wood Pond candidate Local Wildlife Site (cLWS) located within Clay Quarry Wood adjacent to the Site (c. 55 m east of the Site boundary). The c. LWS is important for its pond with broad-leaved pondweed *Potamogeton natans* that is considered to be of value within a young native-species National Forest plantation.

11.4.8 The remaining non-statutory designated sites for nature conservation are located at least 180 m from the Site and separated by Wood Road (B585), Station Road, the East Midlands Railway, or intensively managed arable land (Table 11.5).



Table 11.5: Non-statutory designated sites within 2 km

Site Name	Designation	Proximity to the Survey Area (km)	Description
Bagworth, Clay Quarry Wood pond	cLWS	Within ownership boundary	Small pond in young native-species National Forest plantation, with Broad-leaved pondweed.
The Battram Lane Turn	cLWS	0.18 km north	Large <i>Typha</i> swamp, surrounded by recent plantation of native trees and shrubs, with small area of species-rich mesotrophic grassland. Open access.
The Beacon, Bagworth	cLWS	0.67 km south	Mesotrophic grassland, and heathland (created), scrub and woodland, open access.
Bagworth Wood small stream and ponds	cLWS	0.7 km east	Small stream/ditch, with gravelly substrate, and 3 associated ponds, the largest of which is a large <i>Typha</i> swamp. Also present is marshy grassland and tall herbs, and two potential veteran trees (Ash and Oak) close to middle pond.
Ellistown, Tower Hayes Farm veteran Oak	pLWS	0.81 km north-east	Large veteran oak in arable field.
Battleflat Railway Line	cLWS	1.06 km north	Railway cutting, verges and banks with species-rich mesotrophic grassland, with some lime-loving species. Including Common Spotted Orchids and Fairy Flax. Scattered scrub.
Battram Wood pond and grassland	cLWS	1.14 km west	Created 'wildlife pond' in open access land; diverse aquatic vegetation, surrounded by species-rich tall grassland, unmanaged and probably from wildflower seed. Good for dragonflies.
Stanton under Bardon, Wood Farm pond	cLWS	1.33 km north-east	Large pond with extensive <i>Potamogeton</i> .
Ibstock Grange lake and ponds	cLWS	1.58 km west	Three large ponds/small lakes, along stream through Battram Wood and adjoining plantations. Broad-leaved Pondweed.
Ellistown, hedgerows	cLWS	1.6 km north-west	Two field hedges, the one to





Site Name	Designation	Proximity to the Survey Area (km)	Description
adj to Ibstock Brickworks			south having average 5spp/30 m, with ditch and standard trees; hedge to west with 4.5spp./30 m plus ditch and standard trees (meeting secondary habitat criteria).
Manor Farm, Bagworth	nLWS	1.76 km south-east	Mesotrophic grassland and mature trees - 2 <i>Fraxinus excelsior</i> , 1 <i>Quercus</i> sp., with pond.
Bagworth Park farm drive, veteran beech	cLWS	1.9 km south-east	Large beech, no access to measure, but est. 4 m girth.
Ellistown Hedgerows	cLWS	1.91 km north	Four species-rich hedgerows.
Key: cLWS: Candidate Local Wildlife Site pLWS: Potential Local Wildlife Site nLWS: Notified Local Wildlife Site			

11.4.9 These sites are considered to be of local to district importance to nature conservation.

11.4.10 The following Priority Habitats were identified within 1 km of the Site ([www.magic.gov.uk](http://www.magic.gov.uk)) as shown in Table 11.6 below (Figure 11.1; Volume 2).

**Table 11.6: Known Priority or notable habitats within a 1 km radius of the Site.**

Habitat Type	Approximate Location of Nearest Record (km)
Deciduous woodland	On-site
Ancient woodland	0.86 km south-west

11.4.11 Priority Habitat is considered to be of Local - District importance to nature conservation.

### Habitats

11.4.12 All habitats recorded within the Site during the 2024 and 2025 surveys by HLPC and Envance are described in Table 11.7 below and are shown on Figure 11.2 (Volume 2). Condition assessment sheets are provided within Appendix 11.2 (Volume 3) with photographs in Appendix 11.3 (Volume 3).

**Table 11.7: Habitats recorded within the Site**

Habitat	Approximate Area (ha)/Length (km)	Condition <sup>81</sup>	Strategic Significance <sup>82</sup>
Cereal crops	12.52 ha	N/A	LOW Area/compensation not in local

<sup>81</sup> Department for Environment, Food & Rural Affairs (2025) *Statutory Biodiversity Metric Tools and Guides*.

<sup>82</sup> Department for Environment, Food & Rural Affairs (2025) *Statutory Biodiversity Metric Tools and Guides*.



Habitat	Approximate Area (ha)/Length (km)	Condition <sup>81</sup>	Strategic Significance <sup>82</sup>
			strategy/no local strategy
Other woodland; broadleaved	0.72 ha	Poor	HIGH Formally identified in local strategy
Lowland mixed deciduous woodland (low confidence)	0.4 ha	Poor	HIGH Formally identified in local strategy
Other neutral grassland	0.32 ha	Moderate	MEDIUM Location ecologically desirable but not in local strategy
Mixed scrub	0.14 ha	Moderate	MEDIUM Location ecologically desirable but not in local strategy
Artificial unvegetated, unsealed surface	0.35 ha	N/A	LOW Area/compensation not in local strategy/no local strategy
Urban trees	0.0366 (ha)	Moderate	MEDIUM Location ecologically desirable but not in local strategy
Native hedgerow with trees - associated with bank or ditch	0.193 km	Moderate	MEDIUM Location ecologically desirable but not in local strategy
Native hedgerow	0.728 km	Moderate	MEDIUM Location ecologically desirable but not in local strategy
Native hedgerow - associated with bank or ditch	0.254 km	Moderate	MEDIUM Location ecologically desirable but not in local strategy

#### Cropland Cereal/Non Cereal Crops

- 11.4.13 The central area of the Site comprised arable land that supported crops at the time of the surveys. The arable field margins were very limited in size, approximately 0.5 m wide and characterised by abundant Yorkshire fog *Holcus lanatus*, false oat grass *Arrhenatherum elatius* with occasional cock's foot and perennial rye grass.
- 11.4.14 The herb species were limited to occasional spear thistle *Cirsium vulgare*, creeping thistle *Cirsium arvense*, broad-leaved dock *Rumex obtusifolius*, groundsel *Senecio vulgaris*, common ragwort *Jacobaea vulgaris* and locally abundant nettle *Urtica dioica*. Habitat photographs are provided in Appendix 11.4 (Volume 3).
- 11.4.15 During the verification walkover in 2025 by Envance it was noted that a new fishing pond have been created (NGR: SK 43651 09319) within part of the arable field by the landowners. It is understood that this pond was not subject to planning consent and is proposed to be removed. For the purposes of this assessment the baseline value of this area is considered to



be the habitat recorded by HLPC prior to the pond creation.

11.4.16 Cereal cropped fields have a low species diversity and are common across the landscape. This habitat is a low distinctiveness habitat type. No condition score is awarded to this habitat type. Given its low distinctiveness habitat type and abundance in the wider landscape it is considered to be of low strategic significance.

11.4.17 This habitat is considered to be of significance to nature conservation at a Site level only.

Other woodland; broadleaved

11.4.18 The arable field was surrounded by woodland plantation. The woodland canopy was composed of ash *Fraxinus excelsior* (with significant ash die back present), willow *Salix* sp., wild cherry *Prunus avium*, pedunculate oak *Quercus robur*, silver birch *Betula pendula*, field maple *Acer campestre* and. Throughout the woodland there was evidence of plantation with old tree guards and trees planted in rows (see Appendix 11.4; Volume 3).

11.4.19 There was an understorey of immature and semi-mature pedunculate oak, silver birch and ash with hawthorn *Crataegus monogyna*, hazel *Corylus avellana*, dogwood *Cornus sanguinea*. The ground flora comprised of bramble *Rubus fruticosus* agg., ivy *Hedera helix* and cleavers *Galium aparine*. No species indicative of ancient woodland flora was recorded by HLPC or in the update survey in April 2025.

11.4.20 A review of historic mapping for the area (<https://maps.nls.uk/view/189227526> accessed 25/04/2025) does not show the presence of woodlands on Site between 1883 and 1966 and shows the Site as two agricultural fields (Appendix 11.3; Volume 3).

11.4.21 A review of Google Earth<sup>83</sup> shows the Site including the area that is now woodland as under agricultural production in the year 2000 with the exception of a small strip of woodland which forms part of G7 which is visible, although it does not appear to be visible in 1985 (Appendix 11.3; Volume 3).

11.4.22 A review of the Tree Survey<sup>84</sup> which accompanies the planning application estimated the trees to be between 20 and 40 years old. No Veteran or Ancient Trees were identified within the Tree Survey which would be consistent with the age of the plantation woodland.

11.4.23 A review of [www.magic.gov.uk](http://www.magic.gov.uk) identified part of the G7 woodland block to be Priority Habitat (Figure 11.2; Volume 2). The area of Priority Habitat appears to include the woodland visible in 2000 but also includes land which was did not have established woodland visible on aerial imagery until c. 2010. No woodland appears to have been present in the 1980s and the extent of the woodland shown to be Priority Habitat using [www.magic.gov.uk](http://www.magic.gov.uk) is greater than the smalls section of woodland which becomes visible from the 1980s.

11.4.24 Other Woodland is a Medium distinctiveness habitat. The area of woodland which has been identified in the desk-study as a Priority Habitat has been precautionarily categorised as Lowland Mixed Deciduous Woodland (Priority Habitat), albeit there is low confidence in this assessment of value given its limited age.

11.4.25 Condition assessment of sampled areas throughout the woodland categorised it as 'poor' condition.

11.4.26 The woodland falls within the National Forest and provides habitat connectivity with the

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<sup>83</sup> Google Earth (2025) Location: LE67 1HT, Leicestershire.

<sup>84</sup> Westside Forestry (2025) Land at Wiggs Farm, Tree Survey



wider landscape it has been categorized as high strategic significance.

- 11.4.27 Taking into consideration the limited extent of woodland within the Site compared to the wider local landscape and that it has been planted in recent decades, woodland within the Site is considered to be of Site to Local level importance to nature conservation.

#### Other Neutral Grassland

- 11.4.28 Where the habitats have been managed through the woodland under the route of the overhead pylons, other neutral grassland dominated the habitat type. Based on aerial imagery as stated above this grassland appears to have established over the last 20 years.
- 11.4.29 The sward was approximately 40-50 cm high when surveyed in the summer months comprising frequent false oat, sweet vernal *Anthoxanthum odoratum*, rough meadow grass *Poa trivialis* and meadow foxtail *Alopecurus pratensis* with occasional to rare cock's foot *Dactylis glomerata*, crested dog's tail *Cynosurus cristatus*, meadow fescue *Festuca pratensis* and perennial rye grass *Lolium perenne* and soft brome *Bromus hordeaceus*.
- 11.4.30 Herb species comprised frequent creeping cinquefoil *Potentilla reptans*, ribwort plantain *Plantago lanceolata*, creeping buttercup *Ranunculus repens* and red clover *Trifolium pratense* with occasional to rare common vetch *Vicia sativa*, yarrow *Achillea millefolium*, common chickweed *Stellaria media*, herb robert *Geranium robertianum*, foxglove *Digitalis purpurea*, hedge woundwort *Stachys sylvatica*, germander speedwell *Veronica chamaedrys*, broad leaved dock *Rumex obtusifolius*, hogweed *Heracleum sphondylium*, cat's ear *Hypochaeris radicata*, hedge bindweed *Calystegia sepium* and white clover *Trifolium repens*.
- 11.4.31 Other Neutral Grassland had a moderate species diversity and is common across the wider landscape. The species assemblage is considered to be commonly found within the wider landscape and formed in recent decades. Taking into account the limited extent of this habitat on Site, other neutral grassland is considered to be of importance to nature conservation at a Site level.

#### Mixed Scrub

- 11.4.32 Where the woodland has been managed under the existing pylons (G3) the character of the habitat is considered to be more aligned with mixed scrub, with species including blackthorn, hawthorn, dogwood and hazel with some birch ash and oak. It was considered to be in moderate condition.
- 11.4.33 Mixed scrub has connectivity with the wider woodland parcel and if left unmanaged would likely develop into a woodland structure. It was categorised as having medium strategic significance.
- 11.4.34 Taking into account the extent of the habitat present within the site, and that it has been planted, it is considered to be of Site level importance to nature conservation.

#### Artificial unvegetated, unsealed surface

- 11.4.35 An access track was present along the southern boundary of the Site that linked to Station Road to the east and a yard to the south-west. Some building material had been stored along the side of the track in places. The track comprised compacted gravel and dirt. This habitat did not support any distinctive vegetation communities.
- 11.4.36 This habitat is a very low distinctiveness habitat type. No condition score is awarded to this habitat type. Given its very low distinctiveness habitat type it is considered to be of low



strategic significance. This habitat is considered to be of Site level importance to nature conservation.

#### Hedgerows

11.4.37 Native hedgerows present on Site forming field boundaries to the arable field and a boundary along Station Road (Table 11.8). Numbering refers to the hedgerow on the baseline habitat plan (Figure 11.2; Volume 2) and the Tree Survey<sup>85</sup>.

**Table 11.8: Summary of hedgerows based on HLPC initial data and verification survey**

Hedge number	Hedgerow type	Approximate Length (km)	Description
H1/H23	Native hedgerow with trees - associated with bank or ditch	0.193	Unmanaged hedge 3-4 m high and 2 m wide present along Station Road. Species recorded comprised immature and semi-mature pedunculate oak, hawthorn, holly <i>Ilex aquifolia</i> , willow, blackthorn <i>Prunus spinosa</i> and field rose <i>Rosa arvensis</i> .
H2/H21	Native hedgerow	0.143	Managed hedge 2 m high and 3 m wide. Hawthorn was frequent with occasional elder <i>Sambucus nigra</i> , dog rose <i>Rosa canina</i> and immature pedunculate oak. Ground flora limited to bramble and common nettle.
H2/H22	Native hedgerow	0.149	
H3/H31	Native hedgerow	0.181	Recently planted immature hawthorn hedgerow 1 m high and 0.5 m wide.
H3/H32	Native hedgerow	0.255	
H4	Species-rich native hedgerow	0.299	Mature, managed, species-rich hedgerow 3-4 m high and 2 m wide comprised of hawthorn, blackthorn, guelder rose <i>Viburnum opulus</i> , pedunculate oak, hazel <i>Corylus avellana</i> , holly, goat willow <i>Salix caprea</i> , dogwood, ash and bramble.
H5	Offsite		
H6	Native hedgerow - associated with bank or ditch	0.254	Mature hedgerow along part of the southern boundary 3-4 m high and 3 m wide comprised hawthorn, field maple <i>Acer campestre</i> , pedunculate oak, holly, blackthorn and bramble.

11.4.38 As the hedgerows were comprised of one or more woody, UK native species, they qualify as a habitat of principal importance under Section 41 of the NERC Act (2006).

11.4.39 Hedgerows are an important network for linking other wildlife features together across the landscape into a coherent and connected network and are categorised as having medium strategic significance.

11.4.40 Due to the habitat connectivity they provide, hedgerows collectively are considered to be of

<sup>85</sup> Westside Forestry (2025) Land at Wiggs Farm, Tree Survey



Local level importance to nature conservation.

#### Urban Trees

- 11.4.41 One tree was identified outside the hedgerow network or woodland areas, G7A (Figure 11.2; Volume 2) a willow in moderate condition. Due to the isolated nature of this tree, it was categorised as having low strategic significance and considered to be of importance to nature conservation at a Site level only.

#### **Protected/Notable Species**

##### Amphibians

- 11.4.42 LBRC provided records of GCN within 2 km of the Site with the closest record c. 0.72 km south-west of the Site. Records of common toad *Bufo bufo*, common frog *Rana temporaria* and smooth newt *Lissotriton vulgaris* were identified within 2 km of the Site.
- 11.4.43 No waterbodies have been recorded on Site. Eight waterbodies (P1 – P4; P9-12) were identified within a 250 m radius of the Site (see Figure 11.3; Volume 2). Appendix 11.5 (Volume 3) provides the GCN survey data which is summarised as follows.
- 11.4.44 Ponds P1 – P4 are located within the National Forest plantation woodland located adjacent to the Site. Pond 2 (P2) is located adjacent to the Site and is a highly stocked fishing pond in use by a local fishing club. Pond 1 (P1), Pond 3 (P3) and Pond 4 (P4) are located between 50 m and 130 m away from the site, with suitable terrestrial habitat linking them. P1, P3 and P4 are all part of the local fishing club and are stocked with fish with fishing platforms present on the banks.
- 11.4.45 Station Road and Wood Road act as barriers to amphibian dispersal to the east and north of the Site respectively. Ponds within 250 m of the Site beyond Station Road (P9, P10, P11, P12) were surveyed in 2024 using eDNA analysis. P9, P10 and P12 tested negative for the presence of GCN. P11 was dry at the time of survey.
- 11.4.46 The majority of the Site was considered suboptimal to support amphibians due to the dominance of arable habitat. However, woodland and hedgerow habitats on Site were considered suitable to support common amphibians. Incidental sighting of smooth newts *Lissotriton vulgaris* within P3 were recorded whilst undertaking the habitat surveys. Smooth newts were also recorded on site during reptile surveys.
- 11.4.47 Environmental DNA (eDNA) testing of P1-4 within 250 m of the Site in 2024 returned a positive result for Pond P1 and a negative result for P2, P3 and P4. P1 tested positive for GCN with a low number of replicates (5 out of 12) Appendix 11.5 (Volume 3).
- 11.4.48 A traditional presence/absence survey was undertaken on P1 between April and May 2025 led by Stuart Robinson who holds a GCN Class 1 Survey Licence (WML-CL08 2015-18834-CLS-CLS). Survey data is provided in Appendix 11.5 (Volume 3). No GCN and were recorded during any survey using any survey method. A peak count of nine smooth newts were recorded during the surveys.
- 11.4.49 Taking the low number of positive GCN DNA replicates within the eDNA result for P1 and it is considered that the positive eDNA sample was a false positive, possibly a result of GCN DNA being brought in by the fishing activities within the pond. Based on data collected to date GCN are not considered to be a receptor with respect to the Proposed Development.
- 11.4.50 The small population of smooth newts recorded during the GCN surveys and under reptile



refugia (see below) mean the habitats are considered to be of Site level importance to smooth newts in their terrestrial phase.

#### Reptiles

- 11.4.51 LBRC provided records of grass snake *Natrix helvetica* species within 2 km of the Site with the nearest record located c. 1.53 km north of the Site.
- 11.4.52 The majority of the Site was considered suboptimal to support reptiles due to the dominance of arable habitat and lack of complex habitat structure typically required by reptile populations. However, the arable margins, hedgerows and woodland edge/ride habitats were considered suitable to provide some sheltering/foraging opportunities for reptiles.
- 11.4.53 Reptile surveys conducted during May and June 2024 (Appendix 11.1; Volume 3) recorded a total of six grass snakes over seven survey visits. A peak count of three was recorded on 3rd June 2024 located under artificial refugia within the field margins bordering the adjacent woodland.
- 11.4.54 A low population of grass snakes is considered to be supported by the Site with the woodland/field margin habitats considered to be of Site level importance to grass snake.

#### Birds

- 11.4.55 Multiple records of bird species within 2 km of the Site were identified by LBRC. These records include 15 species listed Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) and on the Birds of Conservation Concern<sup>86</sup> list.
- 11.4.56 Breeding bird Surveys (BBS) were undertaken in 2024 by Falco Ecology and recorded thirty-two species in total (Appendix 11.1; Volume 3) of which 11 were species of conservation concern. Seven species of conservation concern were considered to be holding territory and potentially breeding within the Site. Overall, the Site had a very low variety of lowland farmland/woodland species including those which are considered as UK Red Listed on the BOCC (Table 11.9).

**Table 11.9: Summary of BBS**

Species	Number of territories recorded within Site (number within buffer area)	Notes
Mallard	0 (1)	One territory on the pond within the eastern buffer. Breeding probable.
Stock Dove	1 (1)	Two territories within the woodland habitat. Breeding was not confirmed but probable.
Woodpigeon	1 (3+)	A minimum of four territories within the woodland habitat. Breeding not confirmed but probable within the buffer and likely to have been under-recorded during the survey. Peak foraging flock of 6 individuals on Visit B.

<sup>86</sup> Stanbury, A.J., Eaton, M.A., Aebischer, N.J., Balmer, D., Brown, A.F., Douse, A., Lindley, P., McCulloch, N., Noble, D.G. & 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.





Species	Number of territories recorded within Site (number within buffer area)	Notes
Skylark	2 (1)	Recorded the indicative site boundary and surrounding fields. Breeding probable within the open field habitat of the survey area.
Willow Warbler	0 (1)	A single territory within the buffer woodland habitat. Breeding was not confirmed but probable.
Wren	1 (5+)	6+ territories were spread throughout the woodland habitat of the Site and into the buffer. Breeding was not confirmed but probable.
Song Thrush	0 (3+)	A total of three territories spread throughout the survey area. Breeding probable.
Dunnock	1 (2+)	Recorded throughout the woodland habitats with the indicative site boundary and buffer. Breeding probable within the survey area.
Greenfinch	0 (1)	One territory around Wiggs Farm. Breeding probable within the survey area.
Linnet	1 (0)	Recorded along the southern indicative site boundary. Breeding not confirmed but probable within the field boundary.
Yellowhammer	1 (0)	Recorded along the southern indicative site boundary. Breeding not confirmed but probable within the field boundary.

11.4.57 Twenty-one green listed bird species (not of conservation concern) were recorded and were considered likely to be breeding or holding territory within wider survey area, but none were recorded in particularly notable numbers or densities.

11.4.58 Ten species of conservation concern were recorded, which were considered to be holding territory and potentially breeding within the Site, with three Red List species on Site; skylark *Alauda arvensis* (2 on Site 1 off Site in adjacent arable fields), linnet *Linaria cannabina* and yellowhammer *Emberiza citrinella* and four Amber List Species on Site; dunnock, stock dove, woodpigeon, wren. Appendix 11.1 (Volume 3) provides full details of survey results and associated mapping.

11.4.59 The breeding assemblage of species of conservation concern are relatively common and widespread throughout England and none of the species were present in significantly high numbers, indicating that the existing habitats are no more valuable to these species than other arable farms. The breeding bird surveys considered the Site to be of low value to breeding bird populations at a Site to Local scale.

#### Bats

11.4.60 LBRC provided multiple records of eight bat species identified to species level, and two records of bat species at genus level within 2 km of the Site. Appendix 11.1 (Volume 3) provides full details of survey results and associated mapping. Below provides a summary of the survey results.





- 11.4.61 The arable field was considered to provide minimal foraging opportunities for foraging bats; however, the boundary hedgerows and woodland edges were considered to provide suitable habitat for foraging and commuting bats. Additionally, the woodland on Site and adjacent to Site was considered to provide optimal habitat for bats as it featured multiple rides which provides sheltered foraging habitat and additional woodland edge habitat.
- 11.4.62 The results of the 2024 transect and static surveys recorded a total of five bat species within the Site boundary comprising of common species typical to the local area. Overall, results of the monthly activity surveys indicated that the Site is primarily used by foraging and commuting common and soprano pipistrelle, noctule and unidentified *Myotis* sp. bats. No rare species of bat were recorded. No pattern of activity was recorded with the Site with bat records evenly distributed throughout the Site. Full details of survey results and transect routes are provided in Appendix 11.1 (Volume 3).
- 11.4.63 These results, along with the results from the automated bat surveys, indicate that the Site has typical, but limited, bat activity and the habitats present are considered to be of Site – Local importance for foraging and commuting bats.
- 11.4.64 Trees identified to be removed<sup>87</sup> were considered to be of negligible to low bat roost potential.

#### Badgers

- 11.4.65 LBRC provide records of badgers within 2 km of the Site. The exact location is not provided due to risk of persecution, but records were over 1 km from the Site.
- 11.4.66 Areas of the Site were suitable to support badger, predominantly associated with the boundary hedgerows and woodland on and adjacent to the Site. Mammal runs and snuffle holes were recorded sporadically throughout the woodland on and adjacent to the Site. Additionally, two disused mammal holes were recorded adjacent to the site along the north-western boundary (Appendix 11.1; Volume 3) which when re-assessed in April 2025 were assessed to be inactive, and not attributed to badger. No signs of badger activity were recorded during the verification survey visit.
- 11.4.67 Although no active badger setts were identified on Site, the Site is considered to form part of a wider foraging resource for badger and habitats present are considered to be of Site level importance for supporting foraging and commuting badgers, should they be present in the wider area.

#### Other Notable Species

- 11.4.68 Records of hedgehog *Erinaceus europaeus*, brown hare *Lepus europaeus* were identified by LBRC within 2 km of the Site.
- 11.4.69 Habitats within the Site were considered suitable to support these species and hedgehog, brown hare but no direct signs were recorded as incidental sightings during the surveys undertaken.
- 11.4.70 Taking a precautionary approach hedgehog, brown hare are considered to be potential receptors with respect to the Proposed Development although the habitats present are considered to be of importance at a Site level only, should they be present.

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<sup>87</sup> Westside Forestry (2025) Land at Wiggs Farm Tree Survey and AIA



#### Invasive Non-native Species

- 11.4.71 A small stand of Japanese knotweed was recorded on site within the eastern block of woodland (SK 43829 09651/SK 43829 09652). This was confirmed during the verification survey visit on 8<sup>th</sup> May 2025 (Appendix 11.4; Volume 3). Japanese knotweed is considered to be a disbenefit for nature conservation at a Site to Local level.

### 11.5 Assessment of Effects

#### **Construction**

- 11.5.1 For the assessment, these effects will be taken to be those for which the source begins and ends during the construction of the Proposed Development, as set out in Chapter 4 Proposed Development. The assumed assessment period for construction is Q4 2025 to Q4 2026 and will last for approximately one year.

#### Protected Sites

- 11.5.2 The construction of the Proposed Development will be in proximity to Bagworth, Clay Quarry Wood Pond candidate Local Wildlife Site (cLWS). The cLWS is P1 and valued for the pond habitat within a woodland setting. The pond will be retained.
- 11.5.3 No recreational impacts are anticipated to arise from the Proposed Development as the Site will be secure with security fencing and controlled access.
- 11.5.4 Construction works could cause sediment mobilisation/pollution events and accidental incursions which could damage the cLWS. Without mitigation there is potential for works to result in a temporary, direct, reversible negative effect to the cLWS which would be significant at a Local Level without mitigation.

#### Habitats

##### *Croplands*

- 11.5.5 The construction of the Proposed Development will require permanent and irreversible land take of all cropland within the Site. There is a legal requirement to mitigate this loss at Biodiversity Gain Site secured *via* the Biodiversity Gain Condition (as required by the Environment Act 2021) prior to commencement of development. Taking this into account together with its limited biodiversity value, the abundance of similar habitat within the wider landscape, the direct, negative and permanent loss of this habitat within the Site is considered of significance at a Site level only.

#### Other Woodland Broadleaved and Lowland Deciduous Woodland

- 11.5.6 The construction of the Proposed Development will require direct, negative, permanent and irreversible land take all woodland within the Site boundary. This is unavoidable loss to create access to the Site and to accommodate the operational requirements of the HGVs manoeuvring through the Site. However, the Proposed Development was designed to utilise the grassland rides through the woodland targeting areas of habitat which are more easily to be replaced and retaining the wider woodland to continue to provide habitat continuity.
- 11.5.7 There is a legal requirement to mitigate this loss at Biodiversity Gain Site secured *via* the Biodiversity Gain Condition (as required by the Environment Act 2021) prior to commencement of development.



- 11.5.8 Taking this into consideration together with the limited extent of the loss required compared to the wider retained woodland, its recent planting and limited affiliation to the Priority Habitat status, the loss of woodland habitats within the Site is considered to be a direct, negative, irreversible effect of significance at a Local level only.
- 11.5.9 Without mitigation there is potential for the retained woodland habitat to be affected by the Proposed Development during construction through incidental incursions or pollution events. Without mitigation construction works could result in a temporary, permanent or irreversible, direct, negative effect of significance at a Site level.

#### Other Neutral Grassland

- 11.5.10 The construction of the Proposed Development will require permanent and irreversible land take of other neutral grassland on Site to facilitate the access.
- 11.5.11 There is a legal requirement to mitigate this loss at Biodiversity Gain Site secured *via* the Biodiversity Gain Condition (as required by the Environment Act 2021) prior to commencement of development.
- 11.5.12 Taking into consideration the limited extent of the loss required compared to the wider availability of this habitat type in the wider landscape, and it was created c. 25 years, the loss other neutral grassland within the Site (prior to mitigation establishing either on or offsite) is considered to be a direct, negative, irreversible effect of significance at a Site level only.

#### Mixed Scrub

- 11.5.13 The construction of the Proposed Development will require permanent and irreversible land take of mixed scrub on Site to facilitate the access arrangements.
- 11.5.14 There is a legal requirement to mitigate this loss at Biodiversity Gain Site secured *via* the Biodiversity Gain Condition (as required by the Environment Act 2021) prior to commencement of development.
- 11.5.15 Taking into consideration the limited extent of the loss required compared to the wider availability of this habitat type in the wider landscape, and it was created c. 25 years, the loss mixed scrub within the Site (prior to mitigation establishing either on or offsite) is considered to be a direct, negative, irreversible effect of significance at a Site level only.

#### Urban Trees

- 11.5.16 The construction of the Proposed Development will require permanent and irreversible land take of G7A.
- 11.5.17 There is a legal requirement to mitigate this loss at Biodiversity Gain Site secured *via* the Biodiversity Gain Condition (as required by the Environment Act 2021) prior to commencement of development.
- 11.5.18 Taking into consideration the limited extent of the loss required compared to the wider availability of this habitat type in the wider landscape, and it was created c. 25 years, the loss an urban tree within the Site (prior to mitigation establishing either on or offsite) is considered to be a direct, negative, permanent effect of significance at a Site level only.

#### Artificial Unvegetated, Unsealed Surface

- 11.5.19 The Proposed Development require permanent irreversible loss artificial unvegetated unsealed surface. Due to the limited habitat value this is considered to be of negligible



significance.

#### Native Hedgerows

- 11.5.20 The Proposed Development will require partial land take of native hedgerows. Hedgerows have been retained as part as possible to retain habitat connectivity except where access requirements necessitate removal. The assessment assumes the following (Table 11.10).

**Table 11.10: Hedgerow retention and loss**

Hedgerow	Development Impact
H3/H32	c. 150 m lost for access off Station Road
H4	retained
H6	c. 119 m lost for access
H3/H32	retained
H4	retained
H6	retained

- 11.5.21 Hedgerows will be retained as habitat corridors around the edge of the Site as far as possible. Loss of hedgerow is required to facilitate the Proposed Development through the requirement to create new access points.
- 11.5.22 Loss of c. 150 m of native hedgerow (with trees - associated with bank or ditch) to create the access and safety visibility splay off Station Road will be required together with loss of c. 119 m of native hedgerow. Loss (prior to mitigation establishing either on or offsite) will be direct, negative and permanent that will have a negative effect on habitat connectivity and biodiversity of significance at a Site level.
- 11.5.23 The Proposed Development will retain all other hedgerows. Without mitigation there would be a direct, negative and permanent loss of trees if accidental incursions and buffers were not maintained that will have a negative effect on habitat connectivity and biodiversity of significance at a Site level – Local level.

#### Species

##### *Amphibians*

- 11.5.24 Without mitigation there is potential for permanent, direct, negative impact on amphibian terrestrial habitat during the construction phase and irreversible direct mortality, injury or disturbance to individuals that could be of significance to populations of common amphibians at a Site – Local level.

##### *Birds*

- 11.5.25 The Proposed Development will require loss of areas of arable crop, woodland, hedgerows, mixed scrub and grassland used by a range of bird species for foraging and breeding.
- 11.5.26 Without mitigation nesting birds could be negatively, directly affected during the construction phase through temporary to permanent loss of habitat during breeding (vegetation removal) and direct irreversible mortality, injury or disturbance which could be significant up to a Local Level.

*Bats*

- 11.5.27 The Proposed Development will require the loss of hedgerows within the Site to create access. There will be the loss of arable fields, grassland and woodland/scrub during initial clearance of the Site.
- 11.5.28 This habitat is not considered to represent an important resource for bats and is unlikely to have any significant impact on the local bat population beyond the Site level.
- 11.5.29 Introduced artificial lighting during the construction period could disrupt potential commuting and foraging activities associated with the hedgerows, woodland and grassland habitats. Without mitigation this could result in an indirect, negative, temporary effect significant at a Site level.
- 11.5.30 Trees to be felled were considered to have negligible to low bat roost potential. Bats are highly mobile and can become established at any time and as such there is a low risk of a bat roost becoming established prior to felling and without additional precautionary mitigation the construction phase could result in a negative, indirect, temporary to permanent effect on bat roosts (if established) at a Site level.

*Badger*

- 11.5.31 The Proposed Development will require loss of areas of arable crop, woodland, hedgerows, mixed scrub and grassland used badgers if they become established on Site prior to construction.
- 11.5.32 Without mitigation badgers could be negatively, directly permanently or temporarily affected during the construction phase through temporary to permanent loss of habitat and direct mortality, injury or disturbance if they have become established at the time of works which could be significant at a Site Level.

*Other Notable Species*

- 11.5.33 The habitats on site could be used by hedgehogs and brown hare although no confirmed sightings were identified during surveys. Taking a precautionary approach without mitigation, the construction phase could have a negative, direct, temporary to permanent impact on hedgehogs, brown hare through habitat loss and direct mortality, injury or disturbance should they be present at the time of works which could be significant at a Site level.

*Invasive and Non-Native Species*

- 11.5.34 Without appropriate mitigation during construction the Proposed Development could result in the spread of Japanese knotweed infestation which could be a negative impact of significance at a Site to Local level.

**Operation**

- 11.5.35 The following effects are those which begin once the Proposed Development is fully operational and includes the effects of the physical presence of the infrastructure, its operation, use and maintenance, including the permanent change in land use.
- 11.5.36 The assessment of operational effects will be the first full 12 months of operation. The Proposed Development should become operational from Q1 2027.



### Protected Sites

- 11.5.37 Due to the non-residential nature of the Proposed Development, minimal recreational impacts are anticipated to arise from the operation to the Bagworth, Clay Quarry Wood Pond cLWS. Whilst it cannot be ruled out that people working at the Proposed Development could use the cLWS as a recreational resource on occasion, the Proposed Development includes areas for recreational use outside the cLWS and the Site will be made secure with a security fence and controlled access into and out of the Site. As such any such use is considered to be occasional and temporary, and negligible/not significant at greater than a Site level.
- 11.5.38 The Proposed Development has a Drainage Scheme embedded into the design which will minimise any pollution risk during the operational phase and as such no impacts are anticipated to arise from the operation of the Proposed Development.

### Habitats

- 11.5.39 Prior to the operation of the Proposed Development there is a legal requirement to mitigate this loss at Biodiversity Gain Site secured *via* the Biodiversity Gain Condition (as required by the Environment Act 2021) prior to commencement of development.
- 11.5.40 The Proposed Development will include the provision of other neutral grassland, a habitat of greater biodiversity than cropland, which will be managed to achieve moderate condition (see Appendix 11.2; Volume 3) for target conditions for post-development habitat types). The creation of neutral grassland habitat would be long-term, direct, permanent and positive effect and would be considered to be of significance at a Site level.
- 11.5.41 The Proposed Development includes planting species-rich native hedgerow to increase species diversity of the hedgerow habitat and an increase in the length of hedgerow on Site. The hedgerows will also enter a 30-year management programme. Over time as the new hedgerows will mature and the Proposed Development is anticipated to result in a net enhancement of species-rich hedgerow habitat which would be a direct positive, permanent impact of significance at a Site level.
- 11.5.42 The Proposed Development will include the provision of mixed scrub of a greater species diversity and managed over 30 years to achieve moderate condition. The creation of better-quality mixed scrub habitat would be long-term, direct, permanent and positive and would be considered to be of significance at a Site level.
- 11.5.43 The Proposed Development will include the provision of replacement woodland planting, utilising native species. The creation of other broadleaved woodland habitat would be long-term, direct, permanent and positive and would be considered to be of significance at a Site level.

### *Biodiversity Net Gain*

- 11.5.44 Based on the Illustrative Landscape Masterplan (Figure 4.22 Volume 2) the Proposed Development is anticipated to deliver the following (see Appendix 11.2; Volume 3).
- -23.34 BU (habitats)
  - +1.64 BU (hedgerows)
- 11.5.45 This is based on the following post-development habitat creation (Table 11.11):



Table 11.11: Habitat retention and loss

Proposed Habitat Creation	Approximate Area (ha)/Length (km)	Target Condition	Strategic Significance
Grassland - Other neutral grassland	1.0951 ha	Moderate	MEDIUM Location ecologically desirable but not in local strategy
Urban - Developed land; sealed surface	12.4911 ha	N/A - Other	LOW Area/compensation not in local strategy/no local strategy
Urban - Sustainable drainage system	0.0841 ha	Moderate	LOW Area/compensation not in local strategy/no local strategy
Grassland - Modified grassland	0.3396 ha	Moderate	LOW Area/compensation not in local strategy/no local strategy
Individual trees - Urban tree	0.4519 ha	Moderate	LOW Area/compensation not in local strategy/no local strategy
Urban - Introduced shrub	0.0976 ha	Condition Assessment N/A	LOW Area/compensation not in local strategy/no local strategy
Urban - Developed land; sealed surface	0.079 ha	N/A - Other	LOW Area/compensation not in local strategy/no local strategy
Woodland and forest - Other woodland; broadleaved	0.436 ha	Poor	HIGH Formally identified in local strategy
Heathland and shrub - Mixed scrub	0.0175 ha	Poor	MEDIUM Location ecologically desirable but not in local strategy
Species-rich native hedgerow with trees - associated with bank or ditch	0.336 km	Moderate	MEDIUM Location ecologically desirable but not in local strategy

11.5.46 To support the proposed target condition assessments Appendix 11.2 (Volume 3) sets out the justification for the target conditions and the criteria which would need to be met through a Habitat Management and Maintenance Plan (HMMP) secured *via* planning condition.

11.5.47 Prior to the operation of the Proposed Development there is a legal requirement to mitigate this loss at Biodiversity Gain Site secured *via* the Biodiversity Gain Condition (as required by





the Environment Act 2021) prior to commencement of development.

- 11.5.48 At the time of writing this report there are on-going discussions with a range of off-site habitat providers including Hinkley and Bosworth Borough Council who are developing a Biodiversity Gain Site at Burbage Common<sup>88</sup> within the LPA boundary. Whilst the final Biodiversity Gain Site would be confirmed through the discharge of the Biodiversity Gain Condition, early consultation has identified suitable Biodiversity Gains Sites which could meet the minimum 10% BNG and Trading Rules upon consent of the Proposed Development. Without securing an appropriate Biodiversity Gain Site the development could not proceed to operational phase.

### Species

#### *Amphibians*

- 11.5.49 The Proposed Development includes an amphibian underpass under the new access road allowing continued movement of common amphibians between P1 and the ponds P2-P4. Following completion and establishment of planting and creation of SuDs ponds and new landscaping planting it is considered there would be positive, direct, permanent effect for local amphibians and significant at a Site level.

#### *Reptiles*

- 11.5.50 The Proposed Development includes an amphibian underpass under the new access road allowing continued movement of reptiles. Following completion and establishment of planting and creation of SuDs ponds and new landscaping planting there will be new areas of suitable habitat for basking grass snake where the habitats create similar interface of woodland/grassland habitat which would be positive, direct, permanent effect for local reptile populations and significant at a Site level.

#### *Birds*

- 11.5.51 The Proposed Development once completed includes areas for replacement woodland, scrub and hedgerow planting and grassland habitats which would be a positive, permanent, impact for those species where habitat can be created at a Site level.
- 11.5.52 Skylark breeding habitat (2no.) cannot be fully created on Site at the operational phase although planting can contribute to the available food resource for this species. Without additional mitigation loss of breeding skylark habitat would be negative, permanent and irreversible and considered to be of significance at a Site to Local level.

#### *Bats*

- 11.5.53 The Proposed Development will retain and enhance hedgerows and retain woodland edges and create new areas of SuDs habitat and scrub/grassland/woodland planting providing new habitat corridors through the Site, linking to off-site habitats. The Site will therefore continue to provide suitable foraging and commuting opportunities and will provide alternative routes around the Site for bats and connectivity to the wider area.
- 11.5.54 The Proposed Development will include operational artificial lighting. It has been designed to ensure that the retained boundary habitats are exposed to 1 Lux or less to allow continued

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<sup>88</sup> Hinkley & Bosworth Borough Council (2025) *Burbage Common and Woods*.





use of these areas by foraging bat species (see Lighting Strategy submitted with the planning application). Without this appropriate mitigation to control operational lighting there could be a minor negative, indirect, temporary effect on bat populations recorded at a Site – Local level.

- 11.5.55 The Proposed Development includes the provision of hedgerow, woodland, scrub and tree planting, creation of species-rich neutral grassland which would be of positive, direct, permanent benefit for foraging bats up to a Site level over the long term.

#### *Badger*

- 11.5.56 The Proposed Development once completed includes areas for replacement woodland, scrub and hedgerow planting and grassland habitats which would be a positive, permanent, impact for foraging badgers should they become established in the area in the future and is considered to be of significance at a Site level only.
- 11.5.57 Without further mitigation through appropriate habitat management and appropriate boundary treatment there is a risk that there would be an overall loss of habitat suitable for supporting badgers which would be a negative, direct, permanent impact for badger at a Site level, should they be present in the area.

#### *Other Notable Species*

- 11.5.58 The Proposed Development includes the provision of hedgerow, woodland, scrub and tree planting and creation of species-rich neutral grassland which can be used by hedgehogs if present in the area.
- 11.5.59 Without further mitigation through appropriate habitat management and appropriate boundary treatment there is a risk that there would be an overall loss of habitat suitable for supporting these species which would be a negative, direct, permanent impact for hedgehog at a Site level, should they be present in the area.
- 11.5.60 No brown hare have been recorded on site during any of the numerous survey visits and as such the loss of grassland/arable habitat and creation of grassland, woodland, scrub habitats within the development Site is considered to be neutral in respect of brown hare.

#### *Invasive and Non-Native Species*

- 11.5.61 Without on-going mitigation there is a low risk of Japanese knotweed becoming re-established on Site over the long-term which would be a negative, direct, permanent impact for nature conservation at a Site level.

## 11.6 Mitigation, Enhancement and Residual Effects

- 11.6.1 This section refers to the types of mitigation used as part of the Proposed Development, as defined in Chapter 2 Assessment Methodology, and how they apply to the assessment of Biodiversity.
- 11.6.2 The following sets out the embedded measures (primary), legal requirements (tertiary) and additional measures (secondary) relevant to the assessment of air Biodiversity.

#### **Primary and Tertiary Measures**

- 11.6.3 This Section presents mitigation necessary to reduce any significant impacts identified. The



mitigation is embedded mitigation and considered necessary to prevent significant effects on the ecological features.

11.6.4 The following assumptions are based on the layout and landscape plan which were considered to be 'Mitigation by design' and have been informed through the Biodiversity Mitigation Hierarchy (CIEEM, 2024) taking into account the operational requirements unique to the Proposed Development.

- Retention of the hedgerows, except breaches for required access.
- Creation of native, species-rich hedgerows in greater length than being lost to accommodate the Proposed Development.
- Creation of native, mixed scrub.
- Creation of species-rich grassland.
- Creation of other neutral grassland.
- Creation of other broadleaved woodland with native species.
- New native tree planting.
- A drainage scheme to create a SuDs pond.
- Retention of habitats to retain habitat connectivity with the wider landscape.
- New planting that will offer additional enhancement to local wildlife, in particular bats given that such measures will serve to increase the invertebrate interest and therefore the prey resource for local bat populations.
- Net enhancement of hedgerows and creation of SuDS for the benefit of local biodiversity with the aim of increasing insect abundance within the Site providing a prey resource not only for bats but other local wildlife.
- Creation of an amphibian underpass under the new access road.

11.6.5 The Proposed Development cannot be operational without discharging the Biodiversity Gain Condition under the Environment Act (2021) which will be secured as part of planning consent. This will require a Habitat Management and Monitoring Plan (HMMP) for on site and off site habitat creation to deliver a minimum of 10 % BNG.

11.6.6 Details of the final selected and secured off site Biodiversity Gain Site will be detailed within the Biodiversity Gain Plan (BGP) secured under the condition.

#### Residual

11.6.7 Assuming the mitigation and enhancement measures identified within this assessment are secured and implemented, no significant effects under the EIA regulations are anticipated to occur and the Proposed Development will deliver biodiversity (habitat and hedgerows) enhancement significant at a Site to Local Level.

#### **Secondary Mitigation**

##### Construction

11.6.8 The following additional mitigation measures are recommended that are not included within the design.



### *Protected Sites*

- 11.6.9 During construction potential negative indirect effects on Bagworth, Clay Quarry Wood Pond candidate cLWS have been identified due to sediment mobilisation/pollution events. An Outline Construction and Environmental Management Plan (CEMP) and Drainage Strategy are being submitted with the planning application. These documents will be updated at the detailed design stage to detail the pollution prevention measures necessary to mitigate against pollution effects during the construction and operation of the Proposed Development which will be agreed in detailed when the contractor is appointed with the LPA and Environment Agency through granting of required consents.
- 11.6.10 The Detailed CEMP will also detail the erection of temporary fencing to prevent accidental incursions into the Bagworth, Clay Quarry Wood Pond cLWS located and set out how construction lighting should be implemented to avoid light spill on to the habitats in this area during the construction period. Assuming these measures can be secured *via* planning condition no significant effects are anticipated.

### *Habitats*

- 11.6.11 The Detailed CEMP will set out how the retained habitats (hedgerows, woodland and trees) will be safeguarded through use of contractor information delivery and temporary fencing to minimise the risk of accidental incursions into these areas. Buffer zones around trees, hedgerows and the retained woodland are anticipated to be put in place, as per the guidance within the Arboricultural Impact Assessment report produced by Westside Forestry to accompany the planning application.
- 11.6.12 The final CEMP will also set out how construction should be undertaken following prevailing best practice guidelines regarding pollution prevention. No materials or chemicals should be stored within RPAs of retained/adjacent trees or hedgerows.
- 11.6.13 An Outline CEMP and Drainage Strategy have been being submitted with the planning application. These documents will detail the necessary pollution prevention measures to avoid pollution of the watercourse and will be updated when the final construction and design details are known.
- 11.6.14 An Invasive and Non-Native Species Management Plan for the treatment and eradication of Japanese knotweed will be required from an experience contractor and will be secured *via* planning condition.
- 11.6.15 Assuming these measures can be secured *via* planning condition no significant effects are anticipated.

### *Species*

#### *Amphibians*

- 11.6.16 Prior to any works affecting terrestrial habitat commencing, an Amphibian Reasonable Avoidance Method Statement (RAMS) should be agreed with the LPA and secured *via* planning condition to minimise impacts to common amphibians, GCN (as a precaution only) during the construction phase. This should also be included within the Detailed CEMP together with supervision by a suitably experienced amphibian ecologist to ensure implementation of the Amphibian RAMS.
- 11.6.17 Should more than two years have passed since the assessment of suitable ponds within 250



m of the Site for GCN then an update assessment should be undertaken by a suitability experienced ecologist and if necessary, surveys undertaken to confirm the status of the Site with regard to great-crested newts.

#### *Reptiles*

- 11.6.18 Prior to any works affecting terrestrial habitat commencing Reptile Method Statement (RMS) should be agreed with the LPA and secured *via* planning condition to minimise impacts to reptiles during the construction phase. This should also be included within the Detailed CEMP together with supervision by a suitably experienced ecologist to ensure implementation of the method statement.
- 11.6.19 Areas that have been identified as being suitable to reptiles that are to be lost to the development must be made unsuitable for reptiles through destructive searching, thereby discouraging reptiles from using these areas and reducing the likelihood of fatalities. This requires vegetation being trimmed and removed under the supervision of an Ecological cCerk of Works (ECoW). Removal of suitable vegetation should be undertaken during spring (March-October) when reptiles will be least affected.
- Prior to strimming any natural/artificial reptile refugia must be removed, if possible, to an area outside the proposed route.
  - The first cut must reduce vegetation to a minimum height of c. 150 mm. The trimmed areas should then be left for at least 24 hours so that any reptiles present can safely move out of the area.
  - A second cut will reduce the vegetation to a maximum of c. 20 mm above ground level.
  - The arisings should be removed from the Site and placed in an area not affected by the construction.
- 11.6.20 A qualified herpetologist(s) will attempt to capture any reptiles that remain and release them into similar suitable habitats elsewhere or in sites already identified but not affected by the scheme. Ideally, any reptiles caught should be released into areas adjacent or very close to their site of origin (anticipated to be the adjacent woodland).
- 11.6.21 Should more than two years have passed since the reptile survey undertaken by HLPC then an update assessment survey to confirm the status of the Site with regard to reptiles should be undertaken. This will be secured *via* a suitably worded planning condition.

#### *Birds*

- 11.6.22 Off-site skylark mitigation measures will be required to compensate for the permanent loss of farmland habitats and potential visual displacement. These compensation measures will include a minimum of 4no. skylark plots, thus two per pair or creation of suitable grassland habitats within the local area.
- 11.6.23 Skylark plots are undrilled patches in winter cereals to boost nesting success. A minimum of 2no. Skylark plots per hectare (~20 m<sup>2</sup> per plot) in fields larger than five hectares<sup>89</sup> is required. An area of land (c. 2ha within fields greater than 5 ha) within the Applicant's control have been being identified as a suitable mitigation site for creation of two skylark plots (NGR: SK

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<sup>89</sup> RSPB. 2024. Skylark conservation – Advice for farmers. Royal Society for the Protection of Birds.



43432 08448) for a minimum of 10 years. The mitigation area is currently under cereal cultivation and an initial scoping survey walkover in April 2025 did not record any existing skylark nesting activity within this area. It is anticipated that the details of this mitigation site will be agreed with the LPA and secured *via* appropriate planning obligations.

- 11.6.24 Alternatively, it is plausible that suitable agreements with local farmers could be arranged to provide the required skylark plots or that Leicestershire and Rutland Wildlife Trust may be able to provide skylark plots to developers.
- 11.6.25 Open habitat, ground-nesting birds (i.e. skylark) were recorded holding territory or breeding within the Site during the survey. Open nesting species (i.e. dunnock, linnet and yellowhammer) were also recorded throughout the Site within the field boundary (hedgerow) and woodland habitats. Both open habitat and open nesting birds will be impacted as part of the construction phase of the Proposed Development. A precautionary approach is recommended that clearance of ground vegetation, including grassland, hedgerow and tree removal is undertaken outside the breeding season, thus September to February, inclusive. Any vegetation clearance works undertaken during the breeding season (1st March to 31st August) will require a nesting bird check to be undertaken by a suitably experienced ornithologist no more than 48 hours prior to the vegetation clearance works.
- 11.6.26 It is recommended that a pre-felling survey of the access route is undertaken by a barn owl licenced ornithologist is undertaken as a precaution. Birds will often have multiple nesting locations within their territory. Therefore, it is recommended that an assessment of the trees to support breeding barn owl and a check of any potential trees is completed as near to the vegetation clearance as possible rather than as part of the planning process.

#### *Bats*

- 11.6.27 The CEMP will detail mitigation measures to minimise disturbances to foraging and commuting bats during the construction phase. Works requiring lighting should not take place between sunset and sunrise between April and September (the main season of bat activity). Security lighting required should be kept to a minimum, and where possible be placed on a short timer to reduce the extent of lighting on site during development. Lighting should be fitted with a directional cowl and positioned in such a way that avoids unnecessary light spill over hedgerow, woodland and watercourses. Lighting outputs should be maintained at, or below, 1 Lux which is equivalent to twilight conditions, where practicable.
- 11.6.28 It should be appreciated that bats only require small cavities for roosting and very small roost entry gaps and bat roost may become established at any time. Bats have multiple roost sites and almost any tree with suitable crevices has the potential to be utilised opportunistically by an individual bat. Prior to felling all trees should be re-surveyed by an appointed ecologist as a precaution. Felling should cease immediately if a bat is found or suspected and a licensed bat ecologist consulted for advice.
- 11.6.29 It is further recommended bat boxes and bat tubes be provided on suitable retained trees and incorporated into the new buildings where suitable to increase the availability of roost sites for local bat populations. The provision of such enhancement features would be in accordance with National and Local Planning Policy and will be agreed *via* planning condition with the LPA.

#### *Badger*

- 11.6.30 Prior to any works commencing, a pre-commencement badger survey should be undertaken



by a suitably experienced ecologist. Should badgers establish in the intervening time, no construction should take place which could affect the identified badgers until an appropriate scheme of mitigation (including a Natural England licence if required) is in place. This will be agreed *via* planning condition.

- 11.6.31 The Detailed CEMP should state that any trenches left overnight must be covered or provided with ramps to prevent animals falling into the trenches and being trapped. Excavations left overnight must be checked prior to back filling. Any open pipes left overnight must be covered.

#### *Other Notable Species*

- 11.6.32 The Detailed CEMP will detail appropriate protocol in the event a hedgehog, brown hare is found during construction. Should a hedgehog be found, it should be moved using a gloved hand to a place of safety and shelter as identified by the ECoW. Should a brown hare be found, it should be allowed to disperse on its own accord.

#### Operation

- 11.6.33 The following additional mitigation measures are recommended that are not included within the design.

#### *Protected Sites*

- 11.6.34 The HMMP should include monitoring of security fencing to deter accidental incursions into the Bagworth, Clay Quarry Wood Pond cLWS.

#### *Habitats*

- 11.6.35 The final proposed habitats should be appropriately managed to achieve maximum value for biodiversity and a Habitat Management and Monitoring Plan (HMMP) should be produced to ensure that new habitats achieve appropriate condition as set out in the consented Biodiversity Metric and secured *via* the Biodiversity Gain Condition.
- 11.6.36 An Invasive and Non-Native Species Management Plan for the treatment and eradication of Japanese knotweed will be required from an experience contractor and will be secured *via* planning condition.

#### *Species*

#### *Amphibians and Reptiles*

- 11.6.37 The final proposed habitats should be appropriately managed to achieve maximum value for amphibians and reptiles including creation of 2no. hibernacula and detailed within the Habitat Management and Monitoring Plan (HMMP) to ensure that new habitats achieve appropriate condition as set out in the consented Biodiversity Metric and secured *via* the Biodiversity Gain Condition.
- 11.6.38 Details of the specification for the amphibian underpass should be provided prior to construction commencing and secured *via* planning condition.

#### *Birds*

- 11.6.39 20no. free-hanging bird boxes should be installed on retained trees or installed on new buildings and managed over the long-term within the Proposed Development. These will



include:

- A minimum of 5no. Starling nest boxes, e.g. 3S Schwegler Starling nest box and 10 no. House Sparrow boxes, e.g. Vivara Pro WoodStone House Sparrow nest box are to be included within the Proposed Development. These are to be positioned above 3 m above ground, and on east or north aspect walls. It is advised these boxes are located near to vegetation such as roadside edges.
- A detailed plan of the proposed make, model and positions of the nest boxes will be produced and agreed with the LPA Ecologist either at the planning application stage or as part of a Decision Notice Condition.

#### *Bats*

11.6.40 Operation lighting has been designed to avoid unnecessary light spill over hedgerow, and woodland habitats. Lighting outputs should be maintained at, or below, 1lux which is equivalent to twilight conditions. This should be secured *via* a suitable planning condition.

11.6.41 It is further recommended bat boxes and bat tubes (15no. Schwegler 1FF Bat Boxes (or similar alternative designed for pipistrelle and noctule bats) upon retained trees that would be of benefit to the local bat populations to increase the availability of roost sites for local bat populations and secured *via* a planning condition.

#### Residual

11.6.42 With the above appropriate mitigation in place, the residual effects are considered to be significant at no greater than a Site level.

## 11.7 Cumulative and In-Combination Effects

### **Development Effects**

11.7.1 Cumulative impacts have been considered within the assessment of effects taking into consideration the potential cumulative impacts with schemes identified to date.

11.7.2 The Proposed Development has been designed to mitigate ecological impacts within the Site boundary and provide ecological enhancements both on and off site. All identified ecological impacts could be adequately mitigated and compensated for and as such no significant effects arising in combination to other identified schemes have been identified at this stage.

### **Inter-topic Effects**

11.7.3 The Air Quality Chapter (Chapter 8) has identified an effect which was considered to have the potential for cumulative effects with Ecology during the operational phase only. The modelled operational highest annual mean ammonia (NH<sub>3</sub>) Process Contribution increase exceeds the 1 % increase criteria of the long-term critical level (up to 40 m from the kerb of the road) for Oakley Wood SSSI (Appendix 8.12; Volume 3).

#### Baseline conditions

11.7.4 Oakley Wood SSSI is an Ancient Woodland located c. 12.2 km to the north-east of the Site





located within North-West Leicestershire District Council<sup>90</sup>. The predicted operational impact relates to the increase in traffic flows on the M1 which passes in proximity to Oakley vale SSSI. The SSSI is 48.99 ha in extent and is designated for the following:

*"The site represents a unique example in Leicestershire of the transition from mixed oakwood, developed on free-draining acid soil, to ash-hazel woodland characteristic of the heavy clays of Eastern Central England"*.

- 11.7.5 In 2023, Natural England identified the Site as being in unfavourable condition *"due to levels of plant disease - ash dieback and acute oak decline. Site is under management and looking to address these issues"* and *"plant disease"* was identified as a potential pressure on the favourable conservation status of this Site<sup>91</sup>. The management plan for the woodland does not mention threats or risk of air pollution impacts arising from proximity to the M1. No specific conservation objectives for this woodland were identified.
- 11.7.6 The receptor (Oakley Wood SSSI) is considered to be of national importance to nature conservation in view of its statutory status.

#### Assessment of Effects: Operation Phase

- 11.7.7 Background concentrations of NH<sub>3</sub> at Oakley Wood SSSI were reported as 1.6 µg/m<sup>3</sup> (Table 8.12 of the ES). Taking the Oakley Wood SSSI Critical Levels of ammonia from <https://www.apis.ac.uk/app> it is stated that *"1 or 3 ug/m<sup>3</sup>..the decision must be made on a site specific basis"*.
- 11.7.8 As set out in Table 8.12.3 in Appendix 8.12 (Volume 3) of the ES for critical level predictions, the highest annual mean NH<sub>3</sub> PC increase is 0.02 µg/m<sup>3</sup>, predicted 0 m from the edge of Oakley Wood SSSI. The modelled transect point exceeds the 1 % increase criteria of the long-term critical level (up to 40 m from the kerb of the road).
- 11.7.9 As set out in Table 8.12.4 in Appendix 8.12 (Volume 3) and Paragraph 8.5.27 the change in nitrogen deposition is above the 1 % threshold for a distance up to ~10 m from the edge of Oakley Wood SSSI.
- 11.7.10 A review of the M1 section adjacent to the SSSI at SK48327 21175 and using [www.magic.gov.uk](http://www.magic.gov.uk) to identify the SSSI boundary shows that there is c. 15 m buffer of highway tree and scrub planting on an embankment along this section of the M1 (with the M1 carriage way in a cutting for much of this section), separating the SSSI woodland from the carriageway.
- 11.7.11 Assuming that 1 % increase critical load threshold extends up to 10 m within the SSSI boundary where it is adjacent to the M1 carriage way (the SSSI is parallel to the carriage way for c. 222 m), this equates to c. 0.220 ha of the SSSI to be potentially exposed to >1 % critical load out of the total 48.99 ha (c. 0.45 %) without taking into account the potential effects of intervening highway planting screening.
- 11.7.12 Assuming that 1 % increase critical load threshold extends up to 200 m within the SSSI boundary where it is adjacent to the M1 carriage way (the SSSI is parallel to the carriage way for c. 222 m), this equates to c. 4.4 ha of the SSSI to be potentially exposed to >1 % critical load out of the total 48.99 ha (c. 9 %) without taking into account the potential effects of intervening highway planting screening<sup>92</sup> or topography.

<sup>90</sup> Natural England (1985) *Citation for Oakley Wood Site of Special Scientific Interest (SSSI 1001064)*.

<sup>91</sup> Natural England (2025) *Oakley Wood SSSI – Site Pressures*.

<sup>92</sup> <https://farmtreestoair.ceh.ac.uk/sites/default/guidance/index.html>





- 11.7.13 This would have an adverse, permanent and irreversible impact within the context of the modelled timescales. However, over the lifetime of an ancient woodland where future air quality is anticipated to improve under the assumption of maintaining current electric vehicle trends, there is less certainty that this impact will be permanent and irreversible in the lifetime of the woodland.
- 11.7.14 Drawing on the Common Standards Monitoring Guidance for Woodland Habitats<sup>93</sup> to identify conservation objectives for similar woodlands (Annex 1 and Annex 2 of the document) (reproduced in Appendix 11.6; Volume 3) and impacts relating to air quality, the extent of predicted air quality impacts within the ranges assessed without taking into consideration topographical factors or existing screen planning, do not meet the significant change threshold of >10 % on woodland composition/structure attributable to unnatural external factors, such as air pollution.
- 11.7.15 Taking into consideration that the reported threat to the SSSI is not currently NH<sub>3</sub> levels and the limited extent of the SSSI which will be potentially exposed to the >1 % critical load adjacent to the highway with highway vegetation screen planting, the predicted increase in NH<sub>3</sub> critical load on the SSSI is considered not to be significant.

## 11.8 Statement of Significance

- 11.8.1 This Chapter addresses the ecological impacts of the Proposed Development and has been prepared using data provided by Harris Lamb Property Consultancy (HLPC) with the assessment and supplementary data gathered by Envance with suitable competence and experience to carry out the relevant work.
- 11.8.2 The Site is dominated by habitats of Site to Local level significance to biodiversity. Native hedgerows qualify as a habitat of principal importance under Section 41 of the NERC Act (2006) and are an important habitat network at a local level. The woodland shown as Priority Habitat using Natural England data sources has been shown to be planted in the last few decades.
- 11.8.3 No internationally designated sites for nature conservation were recorded within 10 km of the Site. No nationally designated sites for nature conservation were recorded within 2 km of the Site. Bagworth Clay Pit Wood Pond candidate LWS is located c. 55 m east of the Site boundary and is within a National Forest plantation woodland. It is a pond is considered to be of no more than local significance to nature conservation.
- 11.8.4 A suite of surveys has confirmed the likely absence of great crested newts and presence of common amphibian and reptile species. Surveys have identified the Site is of limited value for other protected species receptors and the presence of a stand of a non-native plant species, Japanese knotweed. Primary, secondary and tertiary mitigation measures have been identified which will reduce the significance of effects arising from the Proposed Development to a Site - Local level only.
- 11.8.5 Delivery of on Site and off Site habitat creation will meet the legal obligation of a minimum 10 % Biodiversity Net Gain in respect of habitats and hedgerows and controlled *via* the Biodiversity Gain Condition.
- 11.8.6 The identified mitigation can be controlled *via* conditions attached to planning consent. Based

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<sup>93</sup> Joint Nature Conservation Committee (2004) *Common Standards Monitoring Guidance for Woodland Habitats*. Version February 2004. JNCC, Peterborough. ISSN 1743-8160.



on the survey work undertaken to date the Proposed Development and embedded and additional mitigation (if secured through appropriate planning conditions) will not result in a significant impact either alone or in combination with known schemes within the area.

- 11.8.7 The Air Quality assessment identified a potential impact arising from traffic related air quality at one point adjacent to the M1 motorway approximately 12 km from the Site where the M1 motorway passes Oakley Woodland Site of Special Scientific Interest (SSSI). As such the ES includes an intra-project cumulative impact assessment.
- 11.8.8 Oakley Vale SSSI is designated at a national level for its ancient woodland habitat. Drawing on the identified guiding documents for assessing air pollution of similar woodlands, the extent of predicted air quality impacts is not considered likely to meet the significant change threshold (>10 %) to woodland composition/structure.
- 11.8.9 Taking into consideration that the reported threat to Oakley Wood SSSI is not currently NH<sub>3</sub> levels and the limited extent of the SSSI which will be potentially exposed the pollutant when taking into consideration the existing highway vegetation screen planting, the predicted increase in ammonia levels on Oakley Wood SSSI is considered not to be significant.
- 11.8.10 A summary of potential environmental effects, mitigation and monitoring in relation to Biodiversity is provided in Table 12.12 overleaf.



Table 11.12: Biodiversity summary

Receptor/ Receiving Environment	Description of Effect	Nature of Effect *	Sensitivity Value**	Magnitude of Effect**	Geographical Importance	Significance of Effects	Mitigation/ Enhancement Measures	Residual Effects
<b>Construction</b>								
Bagworth Clay Quarry Wood Pond candidate Local Wildlife Site (CLWS)	Potential for pollution events Potential for accidental incursions or recreational impacts	Direct, negative & reversible/ temporary	Not applicable	Not applicable	District	Local	CEMP	Not Significant
Habitats	Loss of habitats during construction as identified in BNG assessment	Direct, negative & permanent, Irreversible	Not applicable	Not applicable	Site-Local	Site-Local	Achieve minimum 10% BNG through statutory metric  BGP & HMMP	Not Significant
Amphibians	Loss of habitats during construction, direct injury	Direct, negative & irreversible	Not applicable	Not applicable	Site	Site-Local	Amphibian RAMS in CEMP including update EDNA	Not Significant
Reptiles	Loss of habitats during construction, direct injury	Direct, negative & irreversible	Not applicable	Not applicable	Site	Site-Local	Reptile RAMS in CEMP	Not Significant
Birds	Loss of habitats during construction and during breeding season/direct injury	Direct, negative & irreversible	Not applicable	Not applicable	Local Level	Site-Local	Skylark Plots Methodo Statements in	Not Significant



Receptor/ Receiving Environment	Description of Effect	Nature of Effect *	Sensitivity Value**	Magnitude of Effect**	Geographical Importance	Significance of Effects	Mitigation/ Enhancement Measures	Residual Effects
							CEMP	
Bats	Loss of foraging/commuting habitats during construction/ direct injury roosts	Direct, negative & irreversible  Temporary to permanent	Not applicable	Not applicable	Site Level	Site-Local	Lighting Plan  RAMS bats <i>via</i> CEMP for roosting bats	Not Significant
Badgers	Loss of habitats during construction, direct injury	Direct, negative & irreversible	Not applicable	Not applicable	Site	Site	Badger RAMS in CEMP	Not Significant
Other Notable Species	Loss of habitats during construction direct injury	Direct, positive permanent	Not applicable	Not applicable	Site level	Site level	BGP and HMMP	Not Significant
Invasive and Non-Native Species	Spread of an INNS species under WCA 1981	Direct, negative permanent	Not applicable	Not applicable	Site level	Site level - Local	CEMP and INNS Management Plan	Not Significant
<b>Operation</b>								
Bagworth Clay Quarry Wood Pond candidate Local Wildlife Site (cLWS)	Recreational/pollution	Temporary reversible, negligible	Not applicable	Not applicable	District	Site level	HMMP	Not Significant



Receptor/ Receiving Environment	Description of Effect	Nature of Effect *	Sensitivity Value**	Magnitude of Effect**	Geographical Importance	Significance of Effects	Mitigation/ Enhancement Measures	Residual Effects
Habitats	Creation on Site habitats and secure appropriate Biodiversity Gain Site of habitats to meet the 10% BNG requirement	Direct, positive & permanent	Not applicable	Not applicable	Site	Site-Local	Achieve minimum 10% BNG through statutory metric and secure BGP and HMMP	Not Significant
Amphibians	Enhanced habitats during construction	Positive direct permanent	Not applicable	Not applicable	Site	Site Level	HMMP	Not Significant
Reptiles	Enhanced habitats during construction	Positive direct permanent	Not applicable	Not applicable	Site	Site Level	HMMP	Not Significant
Birds	Creation/enhance nesting and foraging habitats	Direct permanent positive	Not applicable	Not applicable	Local Level	Site-Local	HMMP Skylark Plots Integrated provision	Not Significant
Bats	Creation and enhanced bat foraging/commuting habitat/roost habitats	Direct positive, & permanent	Not applicable	Not applicable	Site Level	Site-Local	BGP and HMMP Lighting Plan Integrated provision	Not Significant
Badgers	Creation of habitats on Site	Direct, positive & permanent	Not applicable	Not applicable	Site	Site	HMMP	No Significant



Receptor/ Receiving Environment	Description of Effect	Nature of Effect *	Sensitivity Value**	Magnitude of Effect**	Geographical Importance	Significance of Effects	Mitigation/ Enhancement Measures	Residual Effects
Other Notable Species	Creation and enhanced habitats	Direct, positive permanent	Not applicable	Not applicable	Site level	Site level	BGP and HMMP	Not Significant
Invasive and Non- Native Species	Spread of an INNS species under WCA 1981	Direct, positive permanent	Not applicable	Not applicable	Site level	Site level	On going INNS Management Plan HMMP	Not Significant



## 12. Water Environment

### 12.1 Introduction

12.1.1 This Chapter of the ES presents the findings of EIA completed in relation to the construction and operational impacts of the Proposed Development on the Water Environment.

12.1.2 This Chapter was undertaken by Tier Consult and written by Keelan Serjeant BSc (Hons), MSc, MCIWEM who has over 20 years of experience in hydrology, flood risk and the planning process. Mr Serjeant is a member of the British Hydrological Society and a Member of the Chartered Institute of Water and Environmental Management (CIWEM). Mr Serjeant has written more than 1,000 Flood Risk Assessments (FRAs) and Environmental Statements and has taken training courses in the Flood Estimation Handbook (FEH), Urban Hydrology, SuDS, FRAs water quality and planning. He has successfully delivered both site and strategic assessments for a range of private and public sector clients nationwide including developers, planning consultants, architects, private individuals, local planning authorities and the Environment Agency.

12.1.3 This Chapter of the EIA Report considers the likely significant effects of the Proposed Development on the Water Environment including the following:

- flood risk;
- surface water quality (watercourses [rivers and canals]; reservoirs, lakes and ponds; and wetlands);
- flood risk management; and
- land drainage.

12.1.4 This Chapter summarises information from supporting studies, technical reports and publicly available data which are included within the following documents:

- the FRA that is presented in Appendix 12.1 (Volume 3); and
- the Drainage Strategy that is presented in Appendix 12.2 (Volume 3).

### 12.2 Legislative and Planning Framework

#### Relevant Legislation

12.2.1 The principal legislative and planning context in relation to the assessment of the effects of the Proposed Development on the Water Environment is presented below.

#### Relevant Planning Policy

##### Local Policy

12.2.2 Local planning policy of relevance to the Water Environment and pertinent to the Proposed Development is discussed below.

##### *Hinckley and Bosworth Borough Council Core Strategy (2006-2026)*

12.2.3 The Hinckley and Bosworth Borough Council Core Strategy was adopted in December 2009



and sets out the strategic planning framework for the borough up to 2026.

- 12.2.4 Relevant policies include those set out within the Infrastructure Plan. The Infrastructure Plan aims to ensure that new infrastructure is provided to support the growth across the borough. This will include new transport improvements, education provision, healthcare facilities, and green infrastructure to accommodate housing and economic development.
- 12.2.5 Spatial Objective 10, 'Preserving and Enhancing Natural Habitats and Biodiversity', states green infrastructure and ecological networks will be expanded to mitigate the environmental impact of development. The strategy includes habitat restoration, enhanced biodiversity corridors, and improved access to natural spaces.
- 12.2.6 Spatial Objective 11, 'Resource Management', states sustainable drainage systems, water efficiency measures, and energy infrastructure will be incorporated into development schemes. New projects will align with climate change resilience strategies to minimise carbon emissions and improve resource efficiency.

*Site Allocation and Development Management Policies DPD (SADM)*

- 12.2.7 The SADM sets out the allocations and development management policies to deliver the development vision, objectives and requirements in the Core Strategy.
- 12.2.8 Policy DM7 – Preventing Pollution and Flooding is relevant to the Water Environment.
- 12.2.9 Changes in national policy, guidance and legislation have overtaken some of the policy requirements and we will apply these policies in the context of the latest position on the matter in question.

*Local Plan Review*

- 12.2.10 Hinckley and Bosworth Borough Council are currently reviewing the current Local Plan to assist in the development of a new Local Plan which will set out land allocations and planning policies for the period 2020 to 2041 and replace the Core Strategy and the SADM.
- 12.2.11 The revised version of the Draft Plan (Reg 18) was consulted upon in the summer of 2024. The Borough Council anticipated public consultation of the Submission Draft Plan (Reg 19) and concluded in February 2025 with a programmed date for adoption in January/February 2026. However, the submission draft is yet to be published, and at the present time we are not clear on the extent of the delay in progressing the plan to the next stage.
- 12.2.12 The Draft Plan that was subject to consultation in 2024, included the subject Site as a draft employment allocation with the potential to contribute toward the logistics needs identified. The weight to be given to this allocation is currently limited due to the stage in the preparation of the local plan review, however, what this does show is that following their review of the Site, the Council has concluded that it has the potential to deliver the scale of employment development similar to what is being proposed here.

*Leicester and Leicestershire Strategic Growth Plan*

- 12.2.13 The Leicester and Leicestershire Strategic Growth Plan was adopted in 2018 and provides a long-term strategic framework for growth across Leicester and Leicestershire up to 2050.
- 12.2.14 The Growth Plan aims to ensure that necessary infrastructure is delivered to support planned development across the region. This includes major transport improvements, economic





investment zones, housing provision, environmental protections, and enhancements to public services such as education and healthcare to accommodate future growth.

*Leicestershire Local Flood Risk Management Strategy (LFRMS) 2024*

12.2.15 The LFRMS for Leicestershire was published in February 2024 and sets out five principles which apply across all local flood risk management work in Leicestershire, to help ensure consistency with legislation, the National FCERM Strategy, and other plans. These are:

- working in partnership;
- working with communities;
- delivering multiple benefits;
- adapting to climate change; and
- taking a risk-based approach.

12.2.16 The LFRMS then sets out five objectives (local projects, asset, watercourses and catchments, encouraging sustainable development, flood preparedness, response and recovery, and better understanding flood risk) which describe the main ways in which local flood risk is managed in Leicestershire.

National Policy

12.2.17 National planning policy of relevance to the Water Environment and pertinent to the Proposed Development is discussed below.

*Flood Risk Regulations 2009*

12.2.18 The Flood Risk Regulations transpose the EC Floods Directive into domestic law and implement its provisions.

12.2.19 The aim of the European Floods Directive is to reduce and manage the risks that floods pose to human health, the environment, cultural heritage and economic activity. The directive sets out requirements for the UK Government (and all other European Union members) to assess and map flood risk from all major rivers. Preliminary Flood Risk Assessments (PFRAs) have been produced by all Lead Local Flood Authorities, with the flood mapping stage completed by 2013. By 2015, Flood Management Plans will need to be produced, focussing on flood prevention, protection and preparedness.

*Flood and Water Management Act 2010*

12.2.20 The legislative framework for flood and coastal risk management is set out principally in the Flood and Water Management Act 2010. The legislation endorses the principle of an integrated approach to water and drainage management. The intentions of the Act are summarised below:

- deliver improved security, service and sustainability for people and their communities;
- clarify responsibilities for managing all sources of flood risk;
- protect essential water supplies by enabling water companies to control more non-essential uses of water during droughts;



- modernise the law for managing the safety of reservoirs;
- encourage more sustainable forms of drainage in new developments through new arrangements for adoption and future operation of such features; and
- make it easier to resolve misconnections to sewers.

*The EU Water Framework Directive 2000*

12.2.21 The Water Framework Directive (WFD) 2000/60/EC is a European Union directive designed to improve and integrate the way water, from all sources, is managed throughout Europe. In the UK, much of the implementation work is undertaken by competent authorities such as the Environment Agency and Local Authorities. It came into force in December 2000 and was transposed into UK law in 2003 *via* the Water Environment (Water Framework Directive) (England and Wales) 2017 Regulations. Member States are required to achieve good chemical and ecological status for their inland and coastal waters by 2015.

*Water Resources Act 1991*

12.2.22 Under the Act, it is an offence to “*cause or knowingly permit poisonous, noxious or polluting matter or any solid waste to enter controlled waters*” unless it is covered by a consent to discharge issued by the Environment Agency. Failure to comply may result in a fine. This includes discharge to surface water drains.

*Land Drainage Act 1991*

12.2.23 The Land Drainage Act outlines the constitution of Internal Drainage Boards (IDB) and the powers of the National Rivers Authority (now the Environment Agency in England). It also includes a definition of watercourses; all rivers and streams and all ditches, drains, culverts, dykes, sewers (other than public sewers) and passages through which water flows.

*Water Act 2003*

12.2.24 The Water Act is an act whose provisions are mainly to amend other legislation, such as the Reservoirs Act 1975, Water Industry Act 1991 and the Water Resources Act 1991.

*The Groundwater Directive 2006*

12.2.25 The Groundwater Directive (GWD) (2006/118/EC)<sup>94</sup> is a European Union law that protects groundwater from pollution and deterioration and was adopted into Welsh law in 2006.

*National Planning Policy Framework*

12.2.26 The National Planning Policy Framework (NPPF) aims to ensure that flood risk is taken into account by all relevant statutory bodies from regional to local authority planning departments to avoid inappropriate development in areas at risk of flooding and to direct development away from areas of high risk. Where new development is, exceptionally necessary in high risk areas, the policy framework aims to make it safe, ensure that it will not increase flood risk elsewhere and, where possible, reduce overall flood risk in the local area (see Paragraph 178

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<sup>94</sup> European Parliament (2006). Directive 2006/118/EC of the European Parliament and of the Council establishing a framework for the protection of groundwater against pollution and deterioration (“*The Water Framework Directive*”).



of the NPPF).

- 12.2.27 Local Authorities should only consider development in flood risk areas as appropriate where it is informed by a site-specific FRA, based upon the Environment Agency's Standing Advice on flood risk. The assessment should identify and assess the risks of all forms of flooding to and from the development and demonstrate how flood risk will be managed so that the development remains safe throughout its lifetime, taking climate change into account (see Paragraph 170 of the NPPF).

## 12.3 Assessment Approach

### Consultation

- 12.3.1 Information regarding the current flood risk at the Site, local flood defences and flood risk has been obtained from the Environment Agency and is contained within the FRA within Appendix 12.1 (Volume 3) and the Drainage Strategy within Appendix 12.2 (Volume 3).

### Methodology

- 12.3.2 Chapter 2 Assessment Methodology of the ES describes the general approach to the assessment. This section of the report provides specific details of the Water Environment methodology applied to the assessment of the Proposed Development.
- 12.3.3 In addition to the legislation and national and local planning policies outlined in Chapter 12.2, this assessment has also been carried out in accordance with professional standards and guidance

### Study Area

- 12.3.4 The study area used for this assessment includes both the Site and its nearby relevant hydrological features (extending at least to 1 km from the Site), including the catchments of local watercourses, surface water features and dependant habitats. It also includes hydrogeological features, including underlying geology, aquifers and nearby groundwater dependent features.

### Assessment Methodology

#### Construction

- 12.3.5 For the assessment, these effects will be taken to be those for which the source begins and ends during the construction of the Proposed Development, as set out in Chapter 4 Proposed Development. The assumed assessment period for construction is Q4 2025 to Q4 2026.

#### Operation and Maintenance

- 12.3.6 For the assessment, these are the effects that begin once the Proposed Development is fully operational and includes the effects of the physical presence of the infrastructure, its operation, use and maintenance, including the permanent change in land use.
- 12.3.7 The assessment of operational effects will be the first full 12 months of operation. The Proposed Development should become operational in Q1 2027, therefore the assessment



year for operation is 2026.

12.3.8 The following three criteria have been used in evaluating the significance of the effects of the Proposed Development:

- the sensitivity of the receiving water environment is assessed, as defined in Table 12.1;
- the magnitude of the effect has been evaluated, as defined in Table 12.2; and
- the sensitivity of the receiving environment together with the magnitude of the effect defines the significance of the effect prior to application of mitigation measures as outlined within Table 12.3.

12.3.9 Professional judgement is used to assess the findings in relation to each of these criteria to give an assessment of significance for each effect. This approach has been used to inform the assessment of predicted effects.

#### Assessment of Significance

12.3.10 The assessment takes into account any inherent mitigation measures to be applied in the implementation of the development proposals.

12.3.11 The significance of effects is determined by considering the magnitude of the effect against the sensitivity of the environmental feature. A matrix is used to combine magnitude and sensitivity to generate the overall level of the effect for each receptor, as illustrated in Table 12.1.

**Table 12.1: Value/sensitivity assessment**

Receptor value/sensitivity	Receptor type
High	<p>Receptor with a high quality and rarity, regional or national scale and limited potential for substitution/replacement.</p> <p>Inner Source Protection Zone (Zone 1).</p> <p>Site of Special Scientific Interest (SSSI) or Special Area of Conservation (SAC).</p> <p>Excellent water quality.</p> <p>Large scale industrial agricultural abstractions &gt;1000 m<sup>3</sup>/day within 2 km downstream, or abstractions for public drinking water supply.</p> <p>Designated salmonid fishery and/or salmonid spawning grounds present.</p> <p>Watercourse widely used for recreation, directly related to watercourse quality (e.g. swimming, salmon fishery etc.) within 2 km downstream.</p> <p>Conveyance of flow and material, main river &gt;10 m wide.</p> <p>Active floodplain area (important in relation to flood defence), i.e. Flood Zone 3b.</p>
Medium	<p>Receptor with a high quality and rarity, local scale and limited potential for substitution/replacement or receptor with a medium quality and rarity, regional or national scale and limited potential for substitution/replacement.</p> <p>Outer Source Protection Zone (Zone 2).</p> <p>Principal Aquifer.</p>



Receptor value/sensitivity	Receptor type
	<p>Good water quality.</p> <p>Large scale industrial agricultural abstractions 500-1000 m<sup>3</sup>/day within 2 km downstream.</p> <p>Surface water abstractions for private water supply for more than 15 people.</p> <p>Designated salmonid fishery and/or cyprinid fishery.</p> <p>Watercourse used for recreation, directly related to watercourse quality (e.g. swimming, salmon fishery etc.).</p> <p>Conveyance of flow and material, main river &gt;10 m wide.</p> <p>Active floodplain area (important in relation to flood defence), i.e. Flood Zone 3b and land having a 1 in 100 or greater annual probability of flooding, i.e. Flood Zone 3a.</p>
Low	<p>Receptor with a medium quality and rarity, local scale and limited potential for substitution/replacement or receptor with a low quality and rarity, regional or national scale and limited potential for substitution/replacement.</p> <p>Total Catchment Source Protection Zone (Zone 3).</p> <p>Secondary Aquifer.</p> <p>Fair water quality.</p> <p>Industrial/agricultural abstractions 50-499 m<sup>3</sup>/day within 2 km downstream.</p> <p>Designated cyprinid fishery or undesignated for fisheries - Occasional or local recreation (e.g. local angling clubs).</p> <p>Groundwater abstractions 50-500 m<sup>3</sup>/day - Private water supplies present.</p> <p>Designated cyprinid fishery, salmonid species may be present and catchment locally important for fisheries.</p> <p>Watercourse not widely used for recreation, or recreation use not directly related to watercourse quality.</p> <p>Land having between a 1 in 100 or greater annual probability of flooding, i.e. Flood Zone 2.</p>
Negligible	<p>Receptor with a low quality and rarity, local scale and limited potential for substitution/replacement.</p> <p>No Source Protection Zone.</p> <p>Unproductive Strata.</p> <p>Environmental equilibrium stable and resilient to changes that are greater than natural fluctuations, without detriment to its present character.</p> <p>Polluted/poor water quality.</p> <p>Industrial/agricultural abstractions &lt;50 m<sup>3</sup>/day within 2 km downstream.</p> <p>Fish sporadically present or restricted, no designated fisheries; not used for recreation.</p> <p>Watercourse &lt;5 m wide.</p> <p>Area does not flood/is located in Environment Agency Flood Zone 1.</p> <p>Receptor heavily engineered or artificially modified and may dry up during summer months.</p>

#### 12.3.12 Magnitude of impact, based on the change that the Proposed Development would have upon



the resource/receptor, is considered within the range of high, medium, low, negligible. Consideration is given to scale, duration of impact/effect (e.g. for construction, short-term for up to 12 months after construction, medium-term for 1-5 years, long-term for 5-15 years and permanent for more than 15 years and/or effects which cannot be reversed) and extent of Proposed Development with reference to the definitions in the Table 12.2.

**Table 12.2: Magnitude of impact**

Magnitude	Description
High	<p>Adverse: Increase in peak flood level (&gt;100 mm); loss of fishery; deterioration in surface water ecological or chemical WFD element status or groundwater or quantitative WFD element status.</p> <p>Beneficial: Creation of additional flood storage and decrease in peak flood level (&gt;100 mm), increase in productivity of size of fishery; improvement in surface water ecological or chemical WFD element status; improvement in groundwater qualitative or quantitative WFD element status.</p>
Medium	<p>Adverse: Increase in peak flood level (&gt;50 mm); partial loss of fishery; measurable decrease in surface water ecological or chemical quality or flow with potential for deterioration in surface waste WFD element status or groundwater or quantitative WFD element status. Reversible change in the yield or quality of an aquifer, such that existing users are affected, with potential for deterioration in WFD element status.</p> <p>Beneficial: Creation of additional flood storage and decrease in peak flood level (&gt; 50 mm), measurable increase in surface water ecological or chemical quality or flow with potential for WFD element status to be improved. Measurable increase in the yield or quality of an aquifer, benefiting existing users, with potential for WFD element status to be improved. Improvement in groundwater qualitative or quantitative WFD element status.</p>
Low	<p>Adverse: Increase in peak flood level (&gt;10 mm); measurable decrease in surface water ecological or chemical quality or flow; decrease in yield or quality of aquifer, not affecting existing users or changing any WFD element status.</p> <p>Beneficial: Creation of flood storage and decrease in peak flood level* (&gt;10 mm); measurable increase in surface water ecological or chemical quality; increase in yield or quality of aquifer not affecting existing users or changing any WFD element status. Measurable but limited change in a ground water supply reliability and quality.</p>
Negligible	<p>Negligible change to peak flood level (&lt; +/- 10 mm); discharges to watercourse or changes to an aquifer which lead to no change in the attribute's integrity and/or in a ground water supply reliability and quality.</p>

12.3.13 The predicted level of effect is based upon the consideration of magnitude of impact and sensitivity of the resource/receptor to come to a professional judgement of how important the effect is.

12.3.14 The sensitivity of the receiving environment together with the magnitude of the effect defines the level of the effect prior to application of additional mitigation measures, as outlined within Table 12.3.



**Table 12.3: Level of effect**

Magnitude of change	Sensitivity of receptor				
		High	Medium	Low	Negligible
	High	Major	Major	Moderate	Negligible
	Medium	Major	Moderate	Minor to Moderate	Negligible
	Low	Moderate	Minor to Moderate	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

12.3.15 Likely effects are therefore concluded to be of major, moderate, minor or negligible. The shaded boxes in Table 12.3 represent those effects that are considered to be significant in terms of the EIA Regulations.

#### **Assumptions and Limitations**

12.3.16 In the event that the Proposed Development proceeds with a layout different to the Proposed Site Plan shown in ES Figure 4.3 (Volume 2), a revised FRA model may be required and subject to environmental reassessment. This would be subject to a scoping exercise at the appropriate time to determine the consistency of the model with the revised design details.

12.3.17 The assessment in this Chapter is reliant on the data presented in the FRA for the Proposed Development and comments from Hinkley and Bosworth Borough Council as the LPA, Leicestershire County Council as the Lead Local Flood Authority (LLFA), the Environment Agency and Severn Trent Water who are responsible for the disposal of wastewater and supply of clean for this area. The Environment Agency's flood data can change over time. However, it is not considered that the above limitations would have a significant bearing on the outcome of this assessment.

## **12.4 Baseline Conditions**

12.4.1 This section identifies the current drainage and flood risk conditions of the Site and the study area. The sources of information used in this desktop study are listed in Table 12.4.

**Table 12.4: Data sources**

Topic	Sources of Information
Topography	Ordnance Survey Maps Site topographic survey
Geology	British Geological Survey (BGS) Bedrock and Superficial Geological Map BGS online data
Hydrogeology	Environment Agency online data Relevant scientific literature



Topic	Sources of Information
Hydrology	<p>Meteorological Office Historic Rainfall Data</p> <p>Flood Estimation Handbook (FEH)</p> <p>National Soil Resource Institute</p> <p>Environment Agency Flood Risk Maps</p> <p>Flood Risk Assessment</p> <p>Hinckley and Bosworth Borough Council Level 1 Strategic Flood Risk Assessment (SFRA) 2025</p> <p>Hinckley and Bosworth Borough Council Level 2 SFRA 2020</p>

### Ground Levels

- 12.4.2 The Site falls from west to east with a maximum ground level of 162 m Above Ordnance Datum (mAOD) and a minimum ground level of 152 mAOD.

### Catchment Hydrology/Drainage

- 12.4.3 There are a number of drains and ponds located within the vicinity of the Site.
- 12.4.4 Currently, the Site is not served by a positive surface water drainage system, with rainfall currently infiltrating into the ground where geological and hydrogeological conditions allow, and then runoff once the infiltration capacity of the ground has been exceeded.

### Rainfall

- 12.4.5 The Site is located within an area of moderate rainfall. The 1961-1990 Standard Average Annual Rainfall (SAAR) for the Site is 687 mm per annum. The UK national average is 832 mm per annum.

### Geology

- 12.4.6 The BGS Map indicates that the west of the Site is underlain by the Oadby Member - diamicton. The bedrock deposits underlying the Site consist of the Edwalton Member - mudstone.

### Hydrogeology

- 12.4.7 The superficial deposits are designated as a Secondary Undifferentiated Aquifer. This is assigned where it is not possible to attribute either category A or B to a rock type. In general, these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.
- 12.4.8 The bedrock deposits are designated as Secondary B Aquifer. This a predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.
- 12.4.9 The Site is not located within an Environment Agency Source Protection Zone (SPZ).





12.4.10 According to the BGS maps, the groundwater vulnerability across the Site is considered to be 'medium'.

#### Licensed Discharges to Controlled Waters

12.4.11 The licensed discharges to controlled water within 2 km of the Site under the Water Resources Act 1991 within 2 km of the Site are shown in Table 12.5.

**Table 12.5: Licensed discharges to controlled water within 2 km of the Site**

Approx. Location from Site	Address	Details	
362 m SW	Nevillearms Sewage Treatment Works	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: T/20/12098/R Permit Version: 1 Receiving Water: CARLTON BROOK	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 07/11/1986 Effective Date: 07/11/1986 Revocation Date: 20/08/2003
388 m SE	Bagworth Mains SPS	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION – WATER COMPANY Permit Number: NPSWQD006539 Permit Version: 1 Receiving Water: TRIB OF RIVER SENCE	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 24/03/2009 Effective Date: 31/03/2009 Revocation Date: 05/11/2018
388 m SE	Bagworth Mains SPS	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION – WATER COMPANY Permit Number: NPSWQD006539 Permit Version: 1 Receiving Water: TRIB OF RIVER SENCE	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 24/03/2009 Effective Date: 31/03/2009 Revocation Date: 05/11/2018
388 m SE	Bagworth Mains SPS	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION – WATER COMPANY Permit Number: NPSWQD006539 Permit Version: 2 Receiving Water: TRIB OF RIVER SENCE	Status: VARIED UNDER EPR 2010 Issue date: 06/11/2018 Effective Date: 06/11/2018 Revocation Date: -



Approx. Location from Site	Address	Details	
388 m SE	Bagworth Mains SPS	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION – WATER COMPANY Permit Number: NPSWQD006539 Permit Version: 2 Receiving Water: TRIB OF RIVER SENCE	Status: VARIED UNDER EPR 2010 Issue date: 06/11/2018 Effective Date: 06/11/2018 Revocation Date: -

### Groundwater Abstractions

12.4.12 The licensed groundwater abstractions within 2 km of the Site within 2 km of the Site are shown in Table 12.6.

12.4.13 This is for sites extracting more than 20 m<sup>3</sup> of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

**Table 12.6: Licensed groundwater abstractions within 2 km of the Site**

Location	Details	
1004 m NW	Status: Active Licence No: MD/028/0020/010 Details: Process Water Direct Source: Groundwater Midlands Region Point: SUMP AT LEICESTER QUARRY Data Type: Poly4 Name: Ibstock Brick Limited Easting: 441526 Northing: 311371	Annual Volume (m <sup>3</sup> ): 280800 Max Daily Volume (m <sup>3</sup> ): 2700 Original Application No: NPS/NA/001090 Original Start Date: 30/08/2022 Expiry Date: 31/03/2038 Issue No: 1 Version Start Date: 30/08/2022 Version End Date: -
1004 m NW	Status: Active Licence No: MD/028/0020/010 Details: Dust Suppression Direct Source: Groundwater Midlands Region Point: SUMP AT LEICESTER QUARRY Data Type: Poly4 Name: Ibstock Brick Limited Easting: 441526 Northing: 311371	Annual Volume (m <sup>3</sup> ): 280800 Max Daily Volume (m <sup>3</sup> ): 2700 Original Application No: NPS/NA/001090 Original Start Date: 30/08/2022 Expiry Date: 31/03/2038 Issue No: 1 Version Start Date: 30/08/2022 Version End Date: -



Location	Details	
1004 m NW	Status: Active Licence No: MD/028/0020/011 Details: Dewatering Direct Source: Groundwater Midlands Region Point: SUMP AT LEICESTER QUARRY Data Type: Poly4 Name: Ibstock Brick Limited Easting: 441526 Northing: 311371	Annual Volume (m <sup>3</sup> ): 449280 Max Daily Volume (m <sup>3</sup> ): 2880 Original Application No: NPS/NA/001094 Original Start Date: 30/08/2022 Expiry Date: 31/03/2038 Issue No: 1 Version Start Date: 30/08/2022 Version End Date: -
1687 m SW	Status: Historical Licence No: 03/28/20/0075 Details: General Farming & Domestic Direct Source: Groundwater Midlands Region Point: BROOKFIELD FARM, WELL Data Type: Point Name: F T NEWBOLD & SONS Easting: 441900 Northing: 308400	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/03/1973 Version End Date: -

### Surface Water Abstractions

12.4.14 There are no licensed surface water abstractions within 2 km of the Site, this is for sites extracting more than 20 m<sup>3</sup> of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

### Potable Water Abstractions

12.4.15 There are no licensed potable water abstractions within 2 km of the Site, this is for sites extracting more than 20 m<sup>3</sup> of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

### Surface Water Quality

12.4.16 The nearest WFD surface quality information to the Site is shown in Table 12.7.

**Table 12.7: Surface water quality**

Location	Type	Name	Parameter	2019
2373 m W	River	Ibstock Brook from Source to River Sence	Overall Rating	Moderate
			Chemical Rating	Fail
			Ecological Rating	Moderate
2746 m S	River	Carlton Brook from Source to River Sence	Overall Rating	Poor
			Chemical Rating	Fail



Location	Type	Name	Parameter	2019
			Ecological Rating	Poor

#### Groundwater Water Quality

12.4.17 The WFD groundwater quality information for the Site is shown in Table 12.8.

**Table 12.8: Groundwater quality**

Location	Name	Parameter	2019
on site	Tame Anker Mease – Secondary Combined	Overall Rating	Good
		Chemical Rating	Good
		Ecological Rating	Good

#### Flood Risk

12.4.18 The FRA presented within Appendix 12.1 (Volume 3), provides the following summary:

*“The Site is not at risk of flooding from a major source (e.g. fluvial and/or tidal). The Site has a ‘low probability’ of fluvial/tidal flooding as the Site is located within Flood Zone 1 with less than a 1 in 1000 annual probability of river/tidal flooding in any year (<0.1 %). A number of secondary flooding sources have been identified which may pose a low risk to the Site. These are:*

- *surface water (pluvial) flooding; and*
- *sewer flooding.*

*The risk of flooding from all sources is considered to be low or not significant. The flooding sources will only inundate the site to a relatively low water depth and water velocity, will only last a short period of time, in very extreme cases and will not have an impact on the whole of the Proposed Development Site.*

*The Proposed Development is classified as ‘less vulnerable,’ ‘less vulnerable’ uses are appropriate within Flood Zone 1 after the completion of a satisfactory FRA. The flood risk at the Site, will be further managed and mitigated by using a number of risk management techniques, and mitigation strategies to manage and reduce the overall flood risk at the Site.*

*In conclusion, the flood risk to the Site can be considered to be limited; the Site is situated in Flood Zone 1, with a low or very low annual probability of flooding and from all sources. The Site is unlikely to flood except in very extreme conditions.”*

12.4.19 The FRA has therefore demonstrated that the Proposed Development will not increase flood risk away from the Site during the construction and operational phases. The Proposed Development is therefore considered to be acceptable in planning policy terms.

#### Environmentally Sensitive Sites

12.4.20 The Site is not located within a Nitrate Vulnerable Zone.

12.4.21 There are three Designated Ancient Woodlands within 2 km of the Site and shown in Table



12.9.

**Table 12.9: Environmentally sensitive sites**

Location	Name	Woodland Type
851 m SW	Unknown	Ancient & Semi-Natural Woodland
914 m SW	Unknown	Ancient & Semi-Natural Woodland
1146 m SW	Unknown	Ancient & Semi-Natural Woodland

### Recreation and Fisheries

12.4.22 There are no designated fishery waterbodies and/or watercourses used for recreation within 2 km of the Site.

### Future Baseline

12.4.23 If the Proposed Development is not approved. The Site will remain an arable land and may return to a being a commercial farm. Alternatively, learnings may be taken from this planning application and a new, revised development may be proposed for the Site.

## 12.5 Assessment of Effects

12.5.1 This section identifies the receptors that might be affected and their associated level of sensitivity prior to the implementation of mitigation.

12.5.2 Based on the baseline conditions presented above, Table 12.10 presents the sensitive receptors which have been considered in the following assessment, along with their sensitivity to change which is based on the general criteria outlined.

**Table 12.10: Sensitive receptors**

Receptor	Medium	Sensitivity	Description
Flood Risk (all sources including river, surface water, groundwater, etc.)	Construction workers	Low	Flooding may impact upon construction workers, but their sensitivity is lowered as a result of their competency in their role as well as operating in teams and/or prescribed systems.
	Residents/users of the surrounding area	Medium	Residents/users of the surrounding areas generally have little awareness of flood risk and residents vulnerability is high given their presence overnight ( <i>via</i> sleeping accommodation).
	Future site visitors (staff)	Low	The vulnerability is reduced as all buildings are located outside and above flood risk areas.



Receptor	Medium	Sensitivity	Description
Watercourses	Water quantity/quality/supply	Low	This would only be felt over short distance of the watercourses compared to the overall length of the watercourses. Water quality issues would also be diluted rapidly within the watercourses.

### Construction Phase

- 12.5.3 Potential effects that may arise during the construction phase of the Proposed Development are outlined below.

#### Impact on Flood Risk - Construction Workers

- 12.5.4 The surface water drainage regime may be altered during this stage, as a result of new groundworks and the rate of runoff may potentially be altered as a result of new ground levels. It is expected that if there is groundwater encountered, it is likely to be in limited shallow quantities. Therefore, ground works and excavations are unlikely to affect drainage and associated potential flooding. Other potential sources of flooding have also been investigated and no significant issues have been identified. Additionally, on and off-site flood risk may increase due to increased runoff due to soil compaction on Site.
- 12.5.5 The sensitivity of construction workers to the risk of flooding is considered low. This is due to their presence on Site only during working hours, their awareness and training.
- 12.5.6 The probability of this occurring is unlikely; the extent is likely to be short on a temporary basis and is likely to be reversible. The magnitude of impact is medium and therefore, without mitigation the increase in flood risk during construction is considered to have a minor adverse effect and not significant.

#### Impact on Flood Risk - Residents/Users of the Surrounding Area

- 12.5.7 The residents of the surrounding area may sleep in the area and lack the knowledge and understanding of the activities undertaken at the Site during construction works. However, there are very few residential properties or other properties within close vicinity of the Site that could be affected by flooding.
- 12.5.8 The rate of surface water runoff may be altered as a result of amended ground levels. Without the management of surface water runoff, there could be surface water flooding conveyed to the surrounding areas. A temporary increase in impermeable area across the Site could result in increased rates and volume of runoff that would not otherwise occur. However, any effect off Site would be mitigated by the distance therefore the sensitivity to the risk of flooding is considered medium.
- 12.5.9 The probability of this occurring is unlikely, the extent is likely to be short on a temporary basis and is likely to be reversible. The magnitude of impact is low and therefore, without mitigation measures the increase in flood risk during construction is considered to have a minor adverse effect.



Watercourses - Water Quantity/Quality/Supply

- 12.5.10 The water environment and the flora and fauna that it supports may be adversely affected by excessive levels of fine sediment contained within surface water runoff originating from construction activities associated with the Proposed Development. Furthermore, the construction activities would involve the excavation and movement of soil/ground at the Site and therefore increase the potential for leaching of pollutants into surface water receptors.
- 12.5.11 Runoff laden with fine sediment is principally generated by rain falling onto land that has been cleared of any vegetation and the ground potentially compacted, preventing infiltration. Other potential sources of water containing high levels of fine sediment at the Site include runoff from material stockpiles, dewatering of excavations, mud on Site and local access roads, and generated as part of the construction works themselves (e.g. vehicle washing).
- 12.5.12 Generally, excessive fine sediment in runoff is chemically inert and affects the water environment through smothering of riverbeds and plants, changing water quality (e.g. increased turbidity); consequently it can have physical impacts on aquatic organisms.
- 12.5.13 Without mitigation in place the watercourses would be susceptible to sediment laden water affecting water quality. Suspended fine sediment has the potential effect fisheries and cause a measurable decrease in ecological and chemical quality on the nearby watercourses, although this would only be felt over short distance of the watercourses compared to the overall length of the watercourses. Suspended fine sediment would also be diluted rapidly within the watercourses.
- 12.5.14 A number of potentially polluting materials may be used during the construction phase. These include oils, diesels, fuels, hydraulic fluids, cement/concrete, heavy metals/metalloids, bentonite, solvent/paints and flocculants etc. The accidental spillage of these may result in the contamination of surface water or groundwater.
- 12.5.15 The sensitivity of the receiving watercourses is low. The probability of this occurring is likely, the extent is likely to be short on a temporary basis and is likely to be reversible. The magnitude of impact is medium and therefore, without mitigation measures the increase in flood risk during construction is considered to have a minor adverse effect.

**Operational Phase**

- 12.5.16 Potential effects that may arise during the operational phase of the Proposed Development are outlined below.

Impact on Flood Risk - Future Site Visitors (staff)

- 12.5.17 The surface water drainage regime may be altered during this stage, as a result of new groundworks and the rate of runoff may potentially be altered as a result of new ground levels.
- 12.5.18 Any alteration of ground levels or obstructions placed within areas considered to be at risk of flooding during operation therefore has the potential to increase flood risk to the Site and elsewhere. Additionally, on and off-site flood risk may increase due to increased runoff due to an increase in impermeable areas.
- 12.5.19 However, the Proposed Development will be located within Flood Zone 1 and a Drainage Strategy has been developed to manage the surface water runoff.



12.5.20 The sensitivity of visitors to the risk of flooding is considered to be low. This is due to their presence on Site only during working hours, their awareness and training.

12.5.21 The probability of this occurring is unlikely; the extent is likely to be short on a temporary basis and is likely to be reversible. The magnitude of impact is medium and therefore, without mitigation the impact flood risk is considered to have a minor adverse effect and not significant.

Impact on Flood Risk - Residents/Users of the Surrounding Area

12.5.22 The residents of the surrounding area may sleep in the area and lack the knowledge and understanding of the activities undertaken at the Site during operation of the Site. However, there are few residential properties or other properties within close vicinity of the Site.

12.5.23 The rate of surface water runoff may be altered as a result of amended ground levels. Without the management of surface water runoff, there could be surface water flooding conveyed to the surrounding areas. An increase in impermeable area across the Site could result in increased rates and volume of runoff that would not otherwise occur. However, any effect off the Site would be mitigated by the distance therefore the sensitivity to the risk of flooding is considered to be medium.

12.5.24 The incorporated mitigation measures noted above include those appropriate for climate change predictions.

12.5.25 The probability of this occurring is unlikely, the extent is likely to be short on a temporary basis and is likely to be reversible. The magnitude of impact is low and therefore, without mitigation measures the increase in flood risk is considered to have a minor adverse effect and not significant.

Watercourses - Water Quantity/Quality/Supply

12.5.26 A number of potentially polluting materials may be used during the operation of the Proposed Development. These include oils and hydraulic fluids. The accidental spillage of these may result in the contamination of surface water.

12.5.27 Other potential sources of pollution include oils and fuels from vehicles operating within the Site and potential increases in suspended sediment loads from runoff from roads and hardstanding areas. The surface water drainage system will include petrol/oil interceptors and potentially proprietary treatment devices that would capture and retain sediment, oils and floatable from stormwater runoff.

12.5.28 Chemical spillages and suspended fine sediment have the potential effect fisheries and cause a measurable decrease in ecological and chemical quality on the nearby watercourses, although this would only be felt over short distance of the watercourses compared to the overall length of the watercourses. Chemical spillages and suspended fine sediment would be diluted rapidly within the watercourses.

12.5.29 The sensitivity of the receiving watercourses is low. The probability of this occurring is likely, the extent is likely to be short on a temporary basis and is likely to be reversible. The magnitude of impact is medium and therefore, without mitigation measures the increase in flood risk is considered to have a minor adverse effect and not significant.





## 12.6 Mitigation, Enhancement and Residual Effects

- 12.6.1 This Section refers to the types of mitigation used as part of the Proposed Development, as defined in Chapter 2 Assessment Methodology, and how they apply to the assessment of the Water Environment.
- 12.6.2 The Applicant has sought to identify and incorporate suitable measures and mitigation for potentially significant adverse effects, as well as maximising beneficial effects where possible. This has been achieved through an iterative process including consultation and engagement with consultees and through the EIA process.
- 12.6.3 Some primary and tertiary measures are embedded in the design of the Proposed Development, including the location and size of infrastructure, as defined in the Work Plans. Other measures are either secondary, termed tertiary, such as control and management plans, or measures integrated into legal requirements *via* environmental permits and consents.
- 12.6.4 The following sets out the embedded measures (primary), legal requirements (tertiary) and additional measures (secondary) relevant to the assessment of the Water Environment.
- 12.6.5 The significance of any potential pollution or changes would be dependent on the nature of the incident, incorporated mitigation measures and sensitivity of the potential receptor.

### **Construction**

#### Primary (Embedded) and Tertiary Measures

##### *Procedures*

- 12.6.6 The design and implementation of the construction works will be undertaken in accordance with ISO 14001 and industry and regulatory procedures. As such, it is envisaged that the following documents will be prepared and, where appropriate, agreed with the regulatory bodies:
- CEMP;
  - drainage strategy;
  - Incidence Response Plan (IRP);
  - environmental training for personnel;
  - record keeping; and
  - the identification, mitigation and remediation of contaminated land.
- 12.6.7 The management of runoff during construction would be included in the Detailed CEMP. In



summary, Pollution Prevention Guidance<sup>95</sup> (PPG), Environment Agency guidance<sup>96</sup> and CIRIA guidance<sup>97</sup> states that the following methods of surface water management should be put in place during the construction phase to ensure pollution, sediment and erosion control.

12.6.8 Mitigation measures will be included within the CEMP, this will incorporate a Drainage Plan which will include:

- 2 m working standoff from the drainage ditches and 5 m from a watercourse to be retained (excluding drainage works);
- bunds will be used to prevent runoff entering watercourses;
- compounds will have hard surfacing to prevent infiltration;
- areas of localised contamination identified during the ground investigation will be remediated/removed as appropriate;
- a procedure will be put in place to manage previously unidentified contaminated ground that is encountered during the works; and
- any surplus soil arisings from levelling or excavation works that has visual or olfactory evidence of contamination will be stored in sheeted stockpiles placed on hardstanding or sheeting pending its removal or treatment.

12.6.9 A Drainage Strategy is proposed as part of the Proposed Development, details of which are contained in Appendix 12.2 (Volume 3). The Drainage Strategy proposes to restrict the discharge from the Site will be restricted to Greenfield runoff rates. The size of this attenuation storage has been calculated such that the Proposed Development has the capacity to accommodate the 100 year rainfall event including an increase in rainfall intensity that is predicted to occur as a result of climate change.

12.6.10 There is potential for the introduction of contaminated materials to the ground or groundwater due to incorrect storage or spillages of construction materials/fuels. Design of operational pollution prevention measures will be included in the Detailed CEMP. Impacts due to incorrect storage and spillage will be mitigated by the following:

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<sup>95</sup> GPP 1 Understanding your environmental responsibilities – good environmental practices (2020).

GPP 2 Above ground oil storage (2018).

GPP 3 Use and design of oil separators in surface water drainage systems (2020).

GPP 4 Treatment and disposal of wastewater where there is no connection to the public foul sewer (2017).

GPP 5: Works and maintenance in or near water (2018).

PPG 6 Working at construction and demolition sites (2012).

GPP 8 Safe storage and disposal of used fuels (2017).

GPP 13 Vehicle washing and cleaning (2017).

GPP 20: Dewatering underground ducts and chambers (2018).

GPP 21 Pollution incident response planning (2021).

GPP 22 Dealing with spills (2018).

GPP 26 Safe storage - drums and intermediate bulk containers (2019).

<sup>96</sup> Environment Agency Guidance 'Oil storage regulations for businesses' (2015). Environment Agency Guidance

'Manage water on land: guidance for land managers' (2015).

<sup>97</sup> CIRIA C502 Environmental Good Practice on Site.

CIRIA C532 Control of Water Pollution from Construction Sites.

CIRIA C753 The SuDS Manual.



- design of a drainage for the Site;
- compounds will comprise hardstanding;
- environmental training for all personnel;
- designated re-fuelling areas on hardstanding with interceptor drainage, bunds, plant, nappies or similar;
- spill kits will be readily available;
- storage areas for materials will be identified; and
- deliveries will be planned in advance.

*Excavated and Exposed Ground*

- 12.6.11 To limit the volume of runoff reaching the exposed ground, runoff diversion or interception devices can be placed upstream. To help prevent pollution from entering a watercourse, silt fences, hay bales or stilling ponds can be placed downstream.
- 12.6.12 The extent of all excavations would be minimised as far as is reasonably practicable. During construction activities, surface water flows would be captured through a series of cut-off drains to prevent water entering excavations or eroding exposed surfaces. If dewatering of excavations is required, pumped discharges would be passed through a washout area, settlement/attenuation ponds and silt fences to capture sediments before release to a watercourse/drain.

*Stockpiles*

- 12.6.13 Stockpiles will be located away from a watercourse or site drainage system to prevent leaching of contaminants. Protective coverings will help prevent runoff stripping a stockpile. Concrete should also be stored to prevent release into drains.
- 12.6.14 Topsoil/subsoil would be stored away from watercourses and on flat lying land (minimum 20 m on flat land). Where this is not possible and it is to be stockpiled for longer than a two week period, the material would, as soon as possible either be covered with geotextile mats, seeded to promote vegetation growth, or drainage provided to a suitable settlement area.

*Plant and Wheel Washing*

- 12.6.15 Plant wheel washing will take place in designated locations. The area will be tanked and will not be allowed to discharge into a watercourse or infiltrate to groundwater. Some proprietary vehicle washing systems offer a recycling facility, which filter and settle solids, with effluent being pumped back into the system. The solid waste materials from this process need to be treated as contaminated waste due to the high hydrocarbon content.
- 12.6.16 Mud deposits would be controlled at entry and exits to the Site using wheel washing facilities and/or road sweepers operating during earthworks or other times as considered necessary.
- 12.6.17 Tools and plant would be washed out and cleaned in designated areas within the Site compound where runoff can be isolated for treatment before discharge to surface water drainage under appropriate consent and/or agreement with the Environment Agency and/or the LPA, or otherwise removed from the Site for appropriate disposal at a licenced waste management facility.



#### *Haul Roads*

- 12.6.18 Haul roads will be designed so that the length is kept to a minimum, but still serves its purpose. The gradient will be shallow to prevent increasing runoff velocity and, if possible, bunds and/or discrete ditches constructed to intercept the runoff. Haul roads will be sprayed regularly to keep down dust. If any section of a haul road is hard surfaced, then it will be swept on a regular basis to prevent accumulation of dust and mud. Gullies will be covered when not in use before the final bituminous running surface is laid.
- 12.6.19 The movement of construction traffic (to/from and between main construction areas) would be controlled *via* defined tracks and hardstanding areas.

#### *Oils and Hydrocarbons*

- 12.6.20 Simple measures can be taken to prevent oil and hydrocarbons becoming pollutants, such as:
- maintenance of machinery and plant;
  - drip trays;
  - regular checking of machinery and plant for oil leaks;
  - correct storage facilities;
  - check for signs of wear and tear on tanks;
  - care with specific procedures when refuelling;
  - designated areas for refuelling;
  - emergency spill kit located near refuelling area;
  - regular emptying of bunds; and
  - tanks located in secure areas to stop vandalism.
- 12.6.21 In accordance with the Environment Agency PPGs, all fuel tanks on site will have a bunded containment of a minimum of 110 % fuel tank capacity. There would be no drainage point from the bunded catchment area and tamperproof taps/valves would be installed. All empty fuel containers or drums would be stored within a catchment area prior to their removal from the Site. Oil traps would be incorporated in pertinent drainage systems to prevent accidental spillage being discharged into the surface runoff. Furthermore, spill kits would be stored at refuelling areas in the event of accidental spillage.
- 12.6.22 Best practice measures would be undertaken when refuelling plant and machinery. Where fuelling of large machinery is required, drip trays and absorbent mats or pellets would be utilised. General maintenance would also be undertaken in a designated area and similar contamination prevention measures would be adopted.
- 12.6.23 All runoff from the Site would be intercepted and treated to remove sediment, oils and other substances prior to discharge. As construction of the Proposed Development progresses the drainage system would be progressively implemented and would also include pollution prevention control systems.

#### *Watercourses/Drainage Channels*

- 12.6.24 The gradient of the proposed drainage channels has been carefully considered. If the gradient



is made too flat, then the channel is likely to silt-up and reduce the flow capacity of the channel and prevent sediment travelling downstream. Alternatively, if the gradient is made too steep, this can increase erosion of the ditch banks which would result in an increase in the quantity of sediments which migrate downstream.

- 12.6.25 The watercourses will be monitored throughout the construction period to identify any enhanced scouring of the catchment surface. If sediment from disturbed ground was found to be excessively mobilised through the minor channels network, this would be mitigated by temporary sediment control measures (e.g. geotextiles/straw bales).

#### Residual

- 12.6.26 This section summarises the significance of the anticipated residual environmental effects, which are those that remain after all proposed mitigation measures are implemented for both scenarios.

#### *Impact on Flood Risk - Construction Workers*

- 12.6.27 The implementation of the mitigation measures will result in a negligible effect and no significant residual effect.

#### *Impact on Flood Risk - Residents/Users of the Surrounding Area*

- 12.6.28 The implementation of the mitigation measures will result in a negligible effect and no significant residual effect.

#### *Watercourses - Water Quantity/Quality/Supply*

- 12.6.29 The implementation of the mitigation measures will result in a negligible effect and no significant residual effect.

### **Operation**

#### Primary (Embedded) and Tertiary Measures

- 12.6.30 Increasing the area of impermeable surface has the potential to increase surface water runoff rates and volumes. An increase in impermeable area across the Site could result in increased rates and volume of runoff that would not otherwise occur. A Drainage Strategy is proposed as part of the Proposed Development, details of which are contained in Appendix 12.2 (Volume 3).
- 12.6.31 The Drainage Strategy proposes to restrict the discharge from the Site will be restricted to Greenfield runoff rates. The size of this attenuation storage has been calculated such that the Proposed Development has the capacity to accommodate the 100 year rainfall event including an increase in rainfall intensity that is predicted to occur as a result of climate change.
- 12.6.32 Storage and handling of fuels and oils at the Site would comply with the Environment Agency PPGs, the Environment Agency guidance and CIRIA guidance. Standard pollution prevention procedures to mitigate the risks to surface water quality would be implemented throughout operation of the Proposed Development. Examples of some of the measures that would be adopted at the Site are: bunded fuel storage; provision of spill kits etc.; and minimising the amount of exposed ground.
- 12.6.33 In accordance with the Environment Agency PPGs, all fuel tanks on site shall have a bunded



containment of a minimum of 110 % fuel tank capacity. There would be no drainage point from the bunded catchment area and tamperproof taps/valves would be installed. All empty fuel containers or drums would be stored within a catchment area prior to their removal from the Site. Oil traps would be incorporated in pertinent drainage systems to prevent accidental spillage being discharged into the surface runoff. Furthermore, spill kits would be stored at refuelling areas in the event of accidental spillage.

12.6.34 Best practice measures would be undertaken when refuelling plant and machinery. Where fuelling of large machinery is required, drip trays and absorbent mats or pellets would be utilised. General maintenance would also be undertaken in a designated area and similar contamination prevention measures would be adopted.

12.6.35 There will be no detriment to the flood storage capacity of the Site. The overall direction of the movement of water will be maintained within the Proposed Development and surrounding area. The conveyance routes (flow paths) will not be blocked or obstructed. The Proposed Development will have no impact on the movement of floodwater across the Site. There will be no increase in the floodwater levels due to the Proposed Development. There will be no loss in flood storage capacity and no change in the on site and off-site flood risk.

#### Residual

##### *Impact on Flood Risk - Future Site Visitors (staff)*

12.6.36 The implementation of the mitigation measures will result in a negligible effect and no significant residual effect.

##### *Impact on Flood Risk - Residents/Users of the Surrounding Area*

12.6.37 The implementation of the mitigation measures will result in a negligible effect and no significant residual effect.

##### *Watercourses - Water Quantity/Quality/Supply*

12.6.38 The implementation of the mitigation measures will result in a negligible effect and no significant residual effect.

## 12.7 Cumulative and In-Combination effects

### **Cumulative Development**

12.7.1 Table 12.11 shows the planning applications which have been assessed for cumulative impact which may have the potential to give rise to likely significant effects on surface water and flood risk.

**Table 12.11: Developments considered for potential cumulative effects**

Development	Description
Electricity Substation Wood Road, Nailstone Leicestershire	Installation of an electrical substation, transformers, new vehicular access, and associated site infrastructure



Development	Description
Land South Of 295 Main Street Stanton Under Bardon Leicestershire (24/00828/REM)	Approval of reserved matters (layout, scale, appearance, landscaping and access other than vehicular access) of outline planning permission (ref: 22/00527/OUT) for residential development of 50 dwellings.
Wood Farm Stanton Lane Ellistown Coalville Leicestershire LE67 1FF (24/00997/DISCON)	Application to discharge condition 11 (Archaeology) from planning application 23/00954/CONDIT

- 12.7.2 The identified planning applications will discharge surface water runoff to a different catchment compared to the Proposed Development and is located far enough away to not pose a significant flood risk to the Proposed Development.
- 12.7.3 No developments have been identified which could give rise to likely significant environmental effects on surface water and flood risk for both scenarios.

## 12.8 Statement of Significance

- 12.8.1 This impact assessment has considered the potential adverse impacts on the waterbodies at or near the Site from the Proposed Development.
- 12.8.2 An FRA (Appendix 12.1; Volume 3) has been prepared to inform this Chapter of the ES. The FRA uses data supplied by the Environment Agency to assess the flood risk to the Site and the impact of the Proposed Development on flood risk.
- 12.8.3 The Site is not at risk of flooding from a major source (e.g. fluvial and/or tidal). The Site has a 'low probability' of fluvial/tidal flooding as the Site is located within Flood Zone 1 with less than a 1 in 1000 annual probability of river/tidal flooding in any year (<0.1 %). A number of secondary flooding sources have been identified which may pose a low risk to the Site. These are:
- surface water (pluvial) flooding; and
  - sewer flooding.
- 12.8.4 The risk of flooding from all sources is considered to be low or not significant. The flooding sources will only inundate the Site to a relatively low water depth and water velocity, will only last a short period of time, in very extreme cases and will not have an impact on the whole of the Site.
- 12.8.5 The Proposed Development is classified as 'less vulnerable,' 'less vulnerable' uses are appropriate within Flood Zone 1 after the completion of a satisfactory FRA. The flood risk at the Site, will be further managed and mitigated by using a number of risk management techniques, and mitigation strategies to manage and reduce the overall flood risk at the Site.
- 12.8.6 In conclusion, the flood risk to the Site can be considered to be limited; the Site is situated in Flood Zone 1, with a low or very low annual probability of flooding and from all sources. The Site is unlikely to flood except in very extreme conditions.
- 12.8.7 A Drainage Strategy is proposed as part of the Proposed Development, details of which are contained in Appendix 12.2 (Volume 3).
- 12.8.8 The Drainage Strategy ensures that a sustainable drainage solution can be achieved, which reduces the peak discharge rate to manage and reduce the flood risk posed by the surface



water runoff from the Site as well as providing water quality benefits.

- 12.8.9 The Drainage Strategy proposes to restrict the discharge from the Site will be restricted to Greenfield runoff rates. The size of this attenuation storage has been calculated such that the Proposed Development has the capacity to accommodate the 100 year rainfall event including an increase in rainfall intensity that is predicted to occur as a result of climate change.
- 12.8.10 A range of pollution prevention and mitigation measures have been described that would adequately manage the flood risk and water quality/quantity/supply during construction. The assessment concludes that the mitigation measures described would reduce the magnitude of impacts to a negligible level and would prevent significant adverse effects arising.
- 12.8.11 In terms of operational impacts, a series of mitigation measures are incorporated into the design to avoid potential adverse effects on flood risk and water quality/quantity/supply. The assessment concludes that the mitigation measures described would reduce the magnitude of impacts to a negligible level and would prevent significant adverse effects arising.
- 12.8.12 The findings of this assessment have demonstrated that the Proposed Development would not result in any significant residual adverse effects on the Water Environment.

#### **Construction Phase**

- 12.8.13 It is concluded that the proposed mitigation measures will ensure that the Proposed Development during the construction phase will have only minor impacts, with no significant adverse long term effects on the Water Environment predicted.
- 12.8.14 A series of comprehensive mitigation measures have been integrated into the design of the Site to ensure that impacts on the Water Environment are minimised. In addition, measures will be implemented during the construction phase to ensure that potential pollution incidents or extreme events are minimised.
- 12.8.15 Impacts during the construction phase are minor adverse, but following mitigation will result in a negligible effect and no significant residual effect.

#### **Operational Phase**

- 12.8.16 It is concluded that the proposed mitigation measures will ensure that the Proposed Development during the operational phase will have only minor impacts, with no significant adverse long term effects on the Water Environment predicted.
- 12.8.17 A series of comprehensive mitigation measures have been integrated into the design of the Site to ensure that impacts on the Water Environment are minimised. In addition, measures will be implemented during the operational phase to ensure that potential pollution incidents or extreme events are minimised.
- 12.8.18 Impacts during the operational phase are minor adverse, but following mitigation will result in a negligible effect and no significant residual effects.
- 12.8.19 The findings of this assessment have demonstrated that the Proposed Development would not result in any significant residual adverse impacts on the Water Environment.





### **Mitigation, Enhancement and Residual Effects**

12.8.20 A summary of potential environmental effects, mitigation and monitoring is provided in Table 12.12.



Table 12.12: Summary of effects

Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Residual effect significance	Mitigation/ Enhancement Measures	Securing mechanism	Residual Effects
<b>Construction</b>											
Construction workers	Flood risk (all sources including river, surface water, groundwater, etc.)	Increase in flood risk	Low	Medium	Local	Minor Adverse	Not significant	Negligible	CEMP, Drainage Strategy, IRP	Planning conditions	Not significant
Residents/ users of the surrounding area	Flood risk (all sources including river, surface water, groundwater, etc.)	Increase in flood risk	Medium	Low	Local	Minor Adverse	Not significant	Negligible	CEMP, Drainage Strategy, IRP	Planning conditions	Not significant
Watercourses	Water quantity/quality/supply	Changes in water quantity/ quality/ supply of watercourses	Low	Medium	Borough/ District	Minor Adverse	Not significant	Negligible	CEMP, Drainage Strategy, IRP	Planning conditions	Not significant



Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Residual effect significance	Mitigation/ Enhancement Measures	Securing mechanism	Residual Effects
<b>Operation</b>											
Future site visitors (staff)	Flood risk (all sources including river, surface water, groundwater, etc.)	Increase in flood risk	Low	Medium	Local	Minor Adverse	Not significant	Negligible	CEMP, Drainage Strategy, IRP	Planning conditions	Not significant
Residents/ users of the surrounding area	Flood risk (all sources including river, surface water, groundwater, etc.)	Increase in flood risk	Medium	Low	Local	Minor Adverse	Not significant	Negligible	CEMP, Drainage Strategy, IRP	Planning conditions	Not significant
Watercourses	Water quantity/quality/supply	Changes in water quantity/ quality/ supply of watercourses	Medium	Medium	Borough/ District	Minor Adverse	Not significant	Negligible	CEMP, Drainage Strategy, IRP	Planning conditions	Not significant
<p>Notes</p> <p>Only enter a value where a sensitivity v magnitude effects has been used – otherwise 'Not Applicable'</p> <p>Enter either: International, European, United Kingdom, Regional, County, Borough/District or Local</p> <p>Enter either: Major/Moderate/Minor/Negligible AND state whether Beneficial or Adverse (unless negligible)</p>											



## 13. Ground Conditions

### 13.1 Introduction

13.1.1 This Chapter of the ES presents the findings of EIA completed in relation to the construction and operational impacts of the Proposed Development on Ground Conditions.

13.1.2 This Chapter was undertaken by Tier Environmental Ltd and is supported by:

- a Preliminary Risk Assessment for Pall-Ex Wood Road, Battram (Ref: TE1808-TE-00-XX-RP-GE-001-V02, February 2024) included in Appendix 13.1 (Volume 3); and
- a Ground Investigation for Pall-Ex, Wood Road, Battram (Ref TE1808-TE-00-XX-RP-GE-002-V03, April 2025) included in Appendix 13.2 (Volume 3). The ground investigation has been undertaken to assess the ground conditions for geotechnical and geo-environmental parameters.

13.1.3 This Chapter summarises information from supporting studies, technical reports and publicly available data which are included within Appendix 13.1 (Volume 3).

13.1.4 This Chapter was undertaken by Tier UK. Competency details are provided in Appendix 1.2 (Volume 3).

### 13.2 Legislative and Planning Framework

#### Relevant Legislation

13.2.1 The principal legislative and planning context in relation to the assessment of the effects of the Proposed Development on Ground Conditions is presented below.

#### Relevant Planning Policy

##### Local Policy

13.2.2 Local planning policy of relevance to Ground Conditions and pertinent to the Proposed Development includes Local Planning Practice Guidance Inclusive of Leicestershire County Council contaminated land policy<sup>98</sup>.

##### National Policy

13.2.3 National planning policy of relevance to Ground Conditions and pertinent to the Proposed Development is described below.

13.2.4 The National Planning Policy Framework (NPPF) (2024) and the following legislation forms the framework for undertaking this chapter:

- Construction (Design and Management) Regulations 2015<sup>99</sup>;
- Town and Country Planning Act 1990<sup>100</sup>;

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<sup>98</sup> <https://www.leicester.gov.uk/your-environment/pollution-and-pests/pollution-control/contaminated-land/>

<sup>99</sup> <https://www.hse.gov.uk/construction/cdm/2015/index.htm>

<sup>100</sup> <https://www.legislation.gov.uk/ukpga/1990/8/contents>



- Environmental Protection Act 1990, Part 2A, Contaminated Land Statutory Guidance; 2012, and Section 78<sup>101</sup>;
- Environmental Protection Act 1995, Section 57<sup>102</sup>; and,

13.2.5 Contaminated Land (England) Regulations, 2006<sup>103</sup>. The above regulations provide guidance on the definition of contaminated land and specifies responsibilities of all parties.

### 13.3 Assessment Approach

#### Consultation

13.3.1 Environmental searches were requested from the Environment Agency (EA) and Local Authority (LA) as part of the Preliminary Risk Assessment. Responses were received on the 5<sup>th</sup> and 16<sup>th</sup> February 2025 for the EA and LA respectively and are summarized in the PRA report (Appendix 13.1; Volume 3).

#### Methodology

13.3.2 Chapter 2 Assessment Methodology of the ES describes the general approach to the assessment. This section of the report provides specific details of the Ground Conditions methodology applied to the assessment of the Proposed Development.

13.3.3 In addition to the legislation and national and local planning policies outlined in Chapter 13.2, this assessment has also been carried out in accordance with the following professional standards and guidance:

- Land Contamination Risk Management, Environment Agency, 2020; and
- CIRIA C552 'Contaminated Land Risk Assessment – A guide to good practice 2001'

13.3.4 The LCRM and CIRIA c552 provide a definition of what constitutes 'contaminated land' and sets out the responsibilities of the LA and the EA in the identification and management of contaminated land. Contaminated land is defined as *"land where substances in or under the ground make it hazardous, or potentially hazardous, to people's health or the environment."*

#### Study Area

13.3.5 The study area is as per the redline boundary drawings referenced in the Preliminary Risk Assessment and Ground Investigation Reports (Appendix 13.1 and 13.2; Volume 3). Groundsure searches include up to a 2 km radius around the Site.

#### Temporal Scope of Assessment

#### Construction

13.3.6 For the assessment, these effects will be taken to be those for which the source begins and ends during the construction of the Proposed Development, as set out in Chapter 4 Proposed Development. The assumed assessment period for construction is Q4 2025 to Q4 2026.

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101 <https://www.legislation.gov.uk/ukpga/1990/43/part/IIA>

102 <https://www.legislation.gov.uk/ukpga/1990/43/section/57>

103 <https://www.legislation.gov.uk/uksi/2006/1380/contents>



#### Operation and Maintenance

- 13.3.7 For the assessment, these are the effects that begin once the Proposed Development is fully operational and includes the effects of the physical presence of the infrastructure, its operation, use and maintenance, including the permanent change in land use.
- 13.3.8 The assessment of operational effects will be the first full 12 months of operation. The Proposed Development should become operational in Q1 2027.

#### Duration of Effects

- 13.3.9 Timescales associated with these effects, regardless of phase are as follows unless defined differently in your relevant methodology:
- short- term – endures for up to 12 months after construction;
  - medium-term – endures for 1-5 years;
  - long-term – endures for 5-15 years; and,
  - permanent effects – endures for more than 15 years and/or effects which cannot be reversed.

#### **Assessment Methodology**

- 13.3.10 This ES has been informed by information contained within the following reports to enable the establishment of baseline conditions and assessment of potential contaminant pathways which may, if unmitigated, present a potentially active contaminant linkage:
- A Preliminary Risk Assessment and Ground Investigation for Pall-Ex, Wood Road, Battram (Ref: TE1808-TE-00-XX-RP-GE-001-V02 & TE1808-TE-00-XX-RP-GE-002-V03) (Appendix 13.1; Volume 3) have been prepared by Tier Environmental. This report included Groundsure Enviro Insight and Geo Insight reports which presented data from the Local Authority, Environment Agency, British Geological Survey and the Coal Authority.
  - A Conceptual Site Model (CSM) and qualitative risk assessment, included in the Ground Investigation in Appendix 13.2 (Volume 3), have been prepared to identify potential sources, pathways and receptors for any geo-environmental contamination or potential contaminants of concern in respect to human health and controlled waters. The approach adopted follows the Environment Agency's Land Contamination Risk Management<sup>104</sup>.
- 13.3.11 For each of the potential contaminant linkages, an estimate has been made of the potential severity of the risk and the likelihood of the risk occurring. An overall evaluation of the level of risk is gained from a comparison of the severity and likelihood as shown in the method statement below.
- 13.3.12 The assessment of risks associated with each of the potential contaminant linkages identified at the Site is used as a basis for assessment of the level of effect during both the construction phase and operation phase of the Proposed Development.
- 13.3.13 The spatial scope for this assessment includes both on site and off-site human health and

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<sup>104</sup> <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>



controlled waters receptors. Where multiple receptors of varying sensitivity are present, such as with neighbouring residents, the most sensitive have been selected when determining the magnitude of the effect.

13.3.14 All chemical testing included as part of the Ground Investigation was compared to Generic Assessment Criteria (GACs) protective of human health appropriate to the proposed commercial land use. The GACs are defined within the Ground Investigation Report (Appendix 13.2; Volume 3).

### Assessment of Significance

13.3.15 Significance is based on the change that the Proposed Development would have upon the resource/receptor and is considered within the range of high, medium, low, negligible. Consideration is given to scale, duration of impact/effect (e.g. for construction, short-term for 1-2 years, medium-term for 3-5 years, long-term for 5 years and greater, and permanent, dependent upon project timeframes) and extent of Proposed Development with reference to the definitions in Table 13.1 below.

**Table 13.1: Assessment matrix**

Magnitude of change	Sensitivity of receptor				
		High	Medium	Low	Negligible
	High	Major	Major	Moderate	Negligible
	Medium	Major	Moderate	Minor to Moderate	Negligible
	Low	Moderate	Minor to Moderate	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

13.3.16 The criteria for determining any effects associated with the proposal are summarised in Table 13.2 below.

**Table 13.2: Assessment of effects**

Significance Criteria	Definition
Major Adverse	Considerable detrimental impact (by extent, duration or magnitude) of more than local significance or in breach of recognised acceptability/legislation/policy standards
Moderate Adverse	Limited detrimental impact (by extent, duration or magnitude) that may be considered significant
Minor Adverse	Slight, very short or highly localised detrimental impact
Negligible	No appreciable impact on the attribute, or the attribute of negligible importance
Minor Beneficial	Advantageous or positive impact to an environmental resource or receptor (e.g. improvement in groundwater quality) of slight, very short or highly localised impact of no significance
Moderate Beneficial	Advantageous or positive impact to an environmental resource or receptor (e.g. improvement in groundwater quality) of limited impact (by extent, duration or magnitude) that may be considered significant



Significance Criteria	Definition
Major Beneficial	Advantageous or positive impact to an environmental resource or receptor (e.g. improvement in groundwater quality) of considerable impact (by extent, duration or magnitude) of more than local significance

### Assumptions and Limitations

- 13.3.17 The Site is to be developed for a Class B8 (Storage and Distribution). Ground levels will be regraded to accommodate the development with a cut/fill balance to maximise the sustainability of the Proposed Development.
- 13.3.18 There may be other conditions prevailing on the Site which have not been revealed by these investigations, and which have not been taken into account by this report.

## 13.4 Baseline Conditions

### Site Context

- 13.4.1 The Site is set within a rural area with agricultural land uses surrounding the Site. Wood Road provides the northern and western boundary and Station Road is on the eastern edge of Site.
- 13.4.2 Adjacent to Site, beyond Wood Road in the northeast, is Pall-Ex distribution premises comprising a large warehouse unit along with associated hardstanding and roadways. To the southeast is the village of Bagworth, with residential properties lying approximately 250 m from Site. To the west is the village of Battram.

### Baseline Survey Information

#### Geology and Ground Conditions

- 13.4.3 The current baseline is based on the Preliminary Risk Assessment and Ground Investigation Report (Appendix 13.1 and 13.2; Volume 3).
- 13.4.4 The below section describes the geology of the Site, specifically topsoil, made ground and bedrock geology.

#### *Topsoil*

- 13.4.5 The majority of the Site is covered by topsoil within agricultural fields.

#### *Made Ground*

- 13.4.6 Localised Made Ground was recorded in the east and south of the footprint, to depths of up to 1.00 m below ground level (bgl). Further Made Ground was recorded along the access road in in the east of the Site to c. 0.75 m bgl within the vicinity of a possibly infilled clay pit.

#### *Bedrock Geology*

- 13.4.7 Natural soils of weathered Edwalton Member bedrock were recorded in all locations as generally either a stiff Clay or very weak Siltstone. Localised softer clays were encountered in the western area of the Proposed Development footprint.
- 13.4.8 Basic radon protection measures are not currently required for the Proposed Development





on this Site.

#### Controlled Waters

- 13.4.9 The nearest surface water feature is an unnamed stream c. 19 m south-east which forms part of a wider local drainage network, with no flow to nearby significant rivers within 250 m.
- 13.4.10 The Oadby Member is Secondary Undifferentiated Aquifer, and the Edwalton Member bedrock is a Secondary B Aquifer.

#### **Future Baseline**

- 13.4.11 The Site is anticipated to change significantly in the future baseline. The soil profile will be impacted by proposed regrading, and topography will be subject to final levels. Future baseline is therefore not considered to be consistent with current baseline.
- 13.4.12 The Proposed Development will comprise hardstanding across the majority of the Site which will reduce infiltration through the soils.
- 13.4.13 The future basement without development would not change significantly and would likely remain as agricultural land use.

### **13.5 Assessment of Effects**

#### **Construction**

##### Human Health Risk Assessment - Geology and Soils

- 13.5.1 Following a human health risk assessment in the Ground Investigation Report (Appendix 13.1; Volume 3), no measured soil concentrations of potential contaminants of concern were reported in excess of GACs protective of human health appropriate to the proposed commercial land use. On this basis, it is not considered that the Site represents a potential risk to end-users.
- 13.5.2 Of the 12 No. samples submitted for asbestos screening, 2 No. were returned positive for asbestos in TP10 at 0.10 m and WS10 at 0.50 m for chrysotile fibre bundles at 0.003 % w/w and <0.001 % w/w respectively. The detection of asbestos in WS10 at 0.50 m bgl is within a distinct Made Ground population which could be segregated during earthworks and re-used under the building footprint. The asbestos recorded in TP10 is within topsoil. The majority of the Topsoil will be removed from Site during the regrading works, with only a small volume retained for reuse in the proposed soft landscaping. Confirmatory asbestos screening of the Site wide Topsoil will be undertaken prior to removal from Site to confirm suitability for reuse on other Development Sites.
- 13.5.3 Preliminary site clearance and development preparatory works associated with the construction phase could create the potential for adverse impacts to construction workers due to oral, inhalation or dermal contact with harmful potential contaminants of concern present within Made Ground soils and/or groundwater and the inhalation of soil derived dust that are potentially locally impacted based on the CSM. The potential generation of dust, including during any regrading works, may also pose a potential risk to adjacent site users. The unmitigated effect is moderate (adverse).
- 13.5.4 Construction activities that are likely to lead to exposure of construction workers to these soils include those listed below and it is anticipated that these works will be ongoing during



the construction phase and will have a negligible effect:

- excavation of material during regrading works, for foundations and working platforms;
- excavations for installation of drainage, services/utilities; and
- stockpiles of arisings from reprofiling earthworks/construction works.

13.5.5 During the earthworks and construction, there is the potential for the release of dust to the atmosphere, which is addressed in Chapter 7: Air Quality.

#### Controlled Waters Risk Assessment

13.5.6 Adverse impacts to controlled waters due to the mobilisation of potential contaminants of concern within Made Ground, shallow soils and perched groundwaters and the creation of preferential pathways during the installation of foundations were assessed as unlikely to arise.

13.5.7 Any unidentified potential contaminants of concern may impact the surface waters on and offsite, the underlying groundwater and potential off-site receptors. It is considered, however, that low permeability cohesive soils are present that will limit infiltration into underlying groundwater across the majority of the Site, therefore they will have an unmitigated negligible effect on controlled waters in the short to long term. It is anticipated that the unmitigated effects will be minor (adverse) and not significant under the EIA Regulations

13.5.8 There is potential for introduction of contaminated materials to the ground or groundwater during the construction phase, such as the importation of unsuitable materials, the incorrect storage or spillages of materials such as paints, fuels or cement. Depending on the location of the spill, pollutants could infiltrate into the ground and contaminate groundwater, or run-off directly to watercourses and/or drainage systems. This is considered to be an unmitigated minor (adverse) impact.

13.5.9 The superficial and bedrock geology on Site is classed into Secondary Undifferentiated Aquifers and Secondary B Aquifers. It is not considered within the CSM that the groundwater is one continuous body, due to the presence of aquitards within some of the bedrock geology. The ground investigations and post fieldwork monitoring confirmed standing groundwater levels of between 1.38 m and 2.88 m bgl. Localised areas of potential contamination may be present but considered unlikely. Left unmitigated, the magnitude of effect is minor (adverse).

#### Ground Gas

13.5.10 The results from 4 No. rounds of ground gas monitoring suggest that the Site falls within a Characteristic Situation (CS) 1 for which no ground gas protection measures are required. If left unmitigated, ground gas presents a negligible impact.

13.5.11 The Site is located in an area where less than 1 % of properties are likely to be above the Radon Action Level, therefore, no protection measures are required. If left unmitigated, radon presents a negligible impact.

#### Imported Soils (if required)

13.5.12 Soils/aggregates may need to be imported for the installation of vibro stone columns, a construction/working platform, beneath areas of hardstanding and as backfill to drainage/utilities. If left unmitigated, the importation of potentially contaminated soils/aggregates may have a moderate (adverse) impact.



#### Ground Stability and Geotechnical Hazards

- 13.5.13 Given the anticipated shallow ground conditions, there may be localised geotechnical issues for shallow soils. Left unmitigated, these may present a potential moderate (adverse) impact due to unacceptable total and/or differential settlements affecting the structural integrity of structures, hardstanding, highways, services and infrastructure during the construction phase.
- 13.5.14 Slope stability/retaining structures are proposed to maximise the development area and to minimise the risk of slope instability.

#### Foundations

- 13.5.15 Shallow spread foundations both within the *in situ* natural strata and following ground improvement (vibro stone columns) may be suitable to avoid unacceptable total and differential settlements. Foundations can create preferential pathways for potential contaminants of concern, if, unmitigated, may present a potential minor (adverse) impact.

#### **Operation**

#### Human Health Risk Assessment - Geology and Soils

- 13.5.16 No measured concentrations of potential contaminants of concern have been reported in excess of the respective GACs protective of human health for a commercial/industrial use, however, the proposed regrading works may result in the retention/relocation of potentially unidentified contaminated Made Ground within soft landscaped areas. If left unmitigated, this presents a negligible impact.
- 13.5.17 Of the 12 No. samples submitted for asbestos screening, 2 No. were returned positive for asbestos in TP10 at 0.10 m and WS10 at 0.50 m for chrysotile fibre bundles at 0.003 % w/w and <0.001 % w/w respectively if left unmitigated, this presents minor/moderate (adverse) impact.

#### Controlled Waters Risk Assessment

- 13.5.18 No evidence of contaminated soils and/or shallow groundwater are present within the Site. These may have a negligible impact.
- 13.5.19 Assuming that any earthworks on Site and any imported soils are suitable for reuse/use and do not introduce any additional potential contaminants, the Proposed Development is considered to have a negligible effect on controlled waters in the short to long term.

#### Ground Gas Risk Assessment

- 13.5.20 The Ground Investigation Report (GIR) assessed no significant potential sources of ground gas. If left unmitigated, there is a negligible impact to future site users and structures/services.
- 13.5.21 The Site is located in an area where less than 1 % of properties are likely to be above the Radon Action Level with regard to radon gas, therefore no protection measures are required. If left unmitigated, radon presents a negligible impact in the short to long term.

#### Imported Soils (if required)

- 13.5.22 Soils/aggregates may need to be imported for the installation of vibro stone columns, a construction/working platform, beneath areas of hardstanding and as backfill to drainage/utilities. If left unmitigated, the importation of potentially contaminated



soils/aggregates may have a low/moderate (adverse) impact in the long term.

#### Ground Stability and Geotechnical Hazards

13.5.23 The Proposed Development could cause issues with localised settlement in areas of differing geology. If left unmitigated, it may present a potential moderate (adverse) impact to the structural integrity of buildings, infrastructure and utilities/services on Site.

13.5.24 Slope stability/retaining structures are proposed to maximise the development area and to minimise the risk of slope instability. If left unmitigated, it may present a potential moderate (adverse) impact to the structural integrity of buildings, infrastructure and utilities/services on Site.

### 13.6 Mitigation, Enhancement and Residual Effects

13.6.1 This section refers to the types of mitigation used as part of the Proposed Development, as defined in Chapter 2 Assessment Scope and Methodology, and how they apply to the assessment of Ground Conditions.

13.6.2 The Applicant has sought to identify and incorporate suitable measures and mitigation for potentially significant adverse effects, as well as maximising beneficial effects where possible. This has been achieved through an iterative process including consultation and engagement with consultees and through the EIA process.

13.6.3 Some primary and tertiary measures are embedded in the design of the Proposed Development, including the location and size of infrastructure, as defined in the Work Plans. Other measures are either secondary, termed tertiary, such as control and management plans, or measures integrated into legal requirements *via* environmental permits and consents.

13.6.4 The following sets out the embedded measures (primary), legal requirements (tertiary) and additional measures (secondary) relevant to the assessment of Ground Conditions.

#### **Construction**

##### Primary (Embedded) and Tertiary Measures

13.6.5 Specific mitigation measures to address potential adverse impacts to construction personnel from potentially contaminated soil and ground gas risks during the Site works may include but is not limited to:

- selection of appropriate Personal Protective Equipment (PPE) (e.g. gloves and overalls);
- monitoring of gas concentrations in excavations and at surface if required, and ensuring procedures are in place to manage this risk;
- implementation of Site rules such as washing hands before eating, no eating in the work area and possibly shower facilities located close to the Site entrance;
- clear signage of contaminated land; and
- adequate Site security is required to prevent trespassers gaining access to the Site during the construction phase.

13.6.6 These and other necessary best practice measures relating to management of ground



conditions and related factors are included within the Outline CEMP. This includes dust management measures (see Chapter 6: Air Quality for further detail).

- 13.6.7 The Proposed Development will comprise hardstanding and building footprint across the majority of the Site will reduce infiltration through the soils.

#### Secondary (Additional) mitigation

- 13.6.8 A Materials Management Plan (MMP) will be produced in accordance with the CL:AIRE Definition of Waste: Code of Practice (DoW CoP) for the reuse of Site won Made Ground. The DoW CoP sets out good practice for the development industry to use when assessing whether excavated materials are classified as waste or not. It also allows the determination, on a site-specific basis, when treated excavated waste can cease to be waste for a particular use. Further, it describes an auditable system to demonstrate that this Code of Practice has been adhered to. If materials are dealt with in accordance with the DoW CoP, the EA considers that those materials are unlikely to be waste if they are used for the purpose of land development. This may be because the materials were never discarded in the first place, or because they have been submitted to a recovery operation which has been completed successfully so that they have ceased to be waste.

#### Human Health Risk Assessment - Geology and Soils

- 13.6.9 A risk assessment undertaken in line with LCRM and BS10175, determined no potential pollutant linkages to end users from potentially contaminative sources on Site for human health risk, and therefore no specific mitigation is considered required. Of the 12 No. samples submitted for asbestos screening, 2 No. were returned positive for asbestos in TP10 at 0.10 m and WS10 at 0.50 m for chrysotile fibre bundles at 0.003 % w/w and <0.001 % w/w respectively.
- 13.6.10 The detection of asbestos in WS10 at 0.50 m bgl is within a distinct Made Ground population which could be segregated during earthworks and re-used under the building footprint. The asbestos recorded in TP10 is within topsoil. The majority of the Topsoil will be removed from Site during the regrading works, with only a small volume retained for reuse in the proposed soft landscaping. Confirmatory asbestos screening of the Site wide Topsoil will be undertaken prior to removal from Site to confirm suitability for reuse on other Development Sites.
- 13.6.11 A Remediation Strategy and/or an asbestos Detailed Quantitative Risk Assessment may be required in line with LCRM (Land Contamination Risk Management) if these asbestos impacted soils are to be retained/re-used within the Proposed Development.
- 13.6.12 Any remedial/enabling works will consider the use of a MMP and Earthworks Specification to retain soils on Site for reuse where the following criteria are met:
- a certainty of use in form of a cut and fill design;
  - chemically suitable for reuse; and
  - geotechnically suitable for reuse.
- 13.6.13 This is in line with CL:AIRE Definition of Waste: Code of Practice and is a sustainable way to reduce the carbon footprint of developments. Sustainable remediation is covered by CL:AIRE SuRF-UK Framework (2020).

#### Protection of Controlled Waters

- 13.6.14 Following results of a controlled waters risk assessment, measured groundwater



concentrations of cadmium, copper, nickel, zinc, benzo(a)pyrene and fluoranthene have been reported in excess of the WQS protective of the controlled waters environment are not considered to present a potential risk to the controlled waters environment and no specific mitigation measures are considered required.

13.6.15 Mitigation measures will be included within the CEMP, mitigation will include:

- protection of existing surface water (in line with Chapter 8: Biodiversity);
- bunds and surface water management system will be used to prevent run-off entering watercourses;
- compounds will have hard surfacing to prevent infiltration from any spillages;
- any areas of localised contamination identified during the proposed ground investigation will be remediated/removed as appropriate;
- a procedure will be put in place to manage previously unidentified contaminated ground that is encountered during the enabling works; and
- any surplus soil arisings from levelling or excavation works that have visual or olfactory evidence of contamination will be stored in covered skips, or on a sheeted stockpile placed on hardstanding or sheeting pending its removal or treatment.

13.6.16 There is potential for the introduction of contaminated materials to the ground or groundwater due to mobilisation of existing contaminants or the incorrect storage/spillages of construction materials/fuels. Design of operational pollution prevention measures will be included in the CEMP. Impacts due to incorrect storage and spillage will be mitigated by the following:

- groundwater monitoring in the vicinity of each construction phase (if deemed necessary);
- design of a Drainage Plan for the Site;
- compounds will comprise hardstanding;
- environmental training for all personnel (as per CR-E);
- designated re-fuelling areas on hardstanding with interceptor drainage, bunds or similar;
- spill kits will be readily available;
- storage areas for materials will be identified; and
- deliveries will be planned in advance.

#### Ground Gas

13.6.17 Results from 4 No. rounds of ground gas monitoring suggest that the Site falls within a CS-1 for which no ground gas protection measures are required. The Health & Safety Executive has published information defining safe occupational exposure levels for various ground gases and substances and the latest guidance must be consulted to determine whether the ground gas regime necessitates specific precautions during Site works.

#### Imported Soils (if required)

13.6.18 All soil materials imported to achieve the Proposed Development platform, the installation of



vibro stone columns and backfill to drainage/utilities will be chemically and geotechnically assessed prior to importation to ensure that they are suitable for the intended use in accordance with the MMP.

#### Foundations and Floor Slabs

13.6.19 It is anticipated that the main building and floor slabs will predominantly be founded on vibro stone columns installed to the shallow bedrock; care to be taken on the differing shallow rock formations that sub-crop on site to ensure no significant total and/or differential settlement occur.

13.6.20 The final foundation solution will be dependent on the loads of the various structures within the Proposed Development, the associated regrading works and the depth to bedrock.

#### Residual

13.6.21 With the Detailed CEMP and appropriate mitigation in place, the residual effects are negligible and 'not significant' for all receptors

#### **Operation**

#### Primary (Embedded) and Tertiary Measures

##### *Human Health Risk Assessment - Geology and Soils*

13.6.22 All of the existing Site soils/materials which are considered suitable for retention and reuse beneath floor slabs, areas of hardstanding and within the landscaped and/or open spaces beneath an adequate depth of suitably verified clean cover soils (if required). This will be confirmed by a Remediation Strategy (if required).

##### *Controlled Waters Risk Assessment*

13.6.23 The risk to controlled waters is considered to be low based on the results of the Ground Investigation. Any unidentified potentially impacted soils are to be localised and will be dealt with during the construction phase.

##### *Ground Gas Risk Assessment*

13.6.24 A monitoring regime of 4 No. visits determined a very low risk to the Site. No ground gas protection measures are required.

##### *Imported Soils (if required)*

13.6.25 The Site preparatory works associated with the Proposed Development are likely to include the importation of suitable soils (vibro stone columns, hardstanding and drainage). Chemical and geotechnical testing of these materials will be undertaken to ensure that they are suitable for use.

#### *Foundations*

13.6.26 Preliminary foundation design can be completed based on the findings of the Ground Investigation Report.

*Retaining Structures/Slope Stability*

- 13.6.27 Retaining structure design can be completed based on the findings of the Ground Investigation Report.

Residual

- 13.6.28 With the Detailed CEMP and appropriate mitigation in place, the residual effects are negligible and 'not significant' for all receptors.

**13.7 Cumulative and In-Combination effects**

- 13.7.1 Cumulative effects are those arising from impacts of the Proposed Development in combination with impacts of other proposed or consented development projects that are not yet built or operational.
- 13.7.2 No cumulative effects are considered relevant in respect to the ground conditions and soils. There is no evidence of contamination on site and therefore works will not impact off site receptors.

**13.8 Statement of Significance****Construction Phase**

- 13.8.1 No significant residual effects remain following implementation of all stated mitigation during the Construction Phase.

**Operational Phase**

- 13.8.2 No significant residual effects remain following implementation of all stated mitigation during the Operational Phase.

**Mitigation, Enhancement and Residual Effects**

- 13.8.3 A summary of potential environmental effects, mitigation and monitoring is provided in Table 13.3. Table 13.3 summarises all mitigation in relation to Ground Conditions, how these measures are secured, the party responsible for the implementation of the measure, when the measure would be delivered and any mechanisms to deliver the measure.





Table 13.3: Ground conditions summary

Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Residual effect significance	Mitigation/ Enhancement Measures	Securing mechanism	Residual Effects
<b>Construction</b>											
Human Health	Moderate Adverse	Localised asbestos impacted Made Ground and Topsoil - Impact to end users	High	Medium	Local	Moderate	Not Significant	Not Significant	Results of Ground Investigation, CEMP/MMP/ Earthworks, Methods of working and PPE	Planning condition	Minor Beneficial
	Negligible	No other contaminants of concern in excess of the relevant GACs.	High	Negligible	Local	Negligible	Not Significant	Not Significant			Negligible
Controlled Waters	Minor Adverse	Impact to surface/ groundwaters	Low/ Medium	Low	Local	Minor	Not Significant	Not Significant	Results of Ground Investigation, CEMP and methods of working	Planning Condition	Minor Beneficial
Ground Gas	Negligible	Inhalation of hazardous ground gases	High	Negligible	Local	Negligible	Not Significant	Not Significant	Earthworks, methods of working and monitoring	Building Control	Negligible



Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Residual effect significance	Mitigation/ Enhancement Measures	Securing mechanism	Residual Effects
Ground Stability and Geotechnical Hazards	Moderate Adverse	Foundation/ excavation difficulties	Medium/ High	Medium	Local	Minor/ Moderate	Not Significant	Not Significant	Ground investigation, safe methods of working and earthworks/ stabilisation	Geotechnical Engineer	Negligible, Minor Beneficial
	Moderate Adverse	Slope Stability	Medium/ High	Medium	Local	Minor/ Moderate	Not Significant	Not Significant	Slope stability analysis	Geotechnical Engineer	Negligible, Minor Beneficial
Imported Soils	Minor Adverse	Introduction of contamination to site	Medium	Medium	Local	Minor	Not Significant	Not Significant	Methods of working and CEMP	Planning Condition	Minor Beneficial
<b>Operation</b>											
Human Health	Moderate Adverse	Localised asbestos impacted Made Ground and Topsoil - Impact to end users	High	Medium	Local	Moderate	Not Significant	Not Significant	MMP, remediation (if required) and verification	Planning condition	Minor Beneficial



Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Residual effect significance	Mitigation/ Enhancement Measures	Securing mechanism	Residual Effects
	Negligible	No other contaminants of concern in excess of the relevant GACs.	High	Negligible	Local	Negligible	Not Significant	Not Significant			Negligible
Controlled Waters	Minor Adverse	Impact to surface/ groundwaters	Low/ Medium	Low	Local	Minor	Not Significant	Not Significant	Assessment and potential source removal of soils/ groundwaters of concern	Planning Condition	Minor Beneficial
Ground Gas	Negligible	Inhalation of hazardous ground gases	High	Negligible	Local	Negligible	Not Significant	Not Significant	Gas Protection Measures (not required)	Building Control	Negligible
Ground Stability and Geotechnical Hazards	Moderate Adverse	Foundation/ excavation difficulties	Medium/ High	Medium	Local	Minor/ Moderate	Not Significant	Not Significant	Stabilisation and ground improvement as required	Geotechnical Engineer	Negligible, Minor Beneficial
	Moderate Adverse	Slope Stability	Medium/ High	Medium	Local	Minor/ Moderate	Not Significant	Not Significant		Geotechnical Engineer	Negligible, Minor Beneficial



Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Residual effect significance	Mitigation/ Enhancement Measures	Securing mechanism	Residual Effects
Imported Soils	Minor Adverse	Introduction of contamination to site	Medium	Medium	Local	Minor	Not Significant	Not Significant	Protocols and testing to confirm all imported soils are suitable for use	Planning Condition	Minor Beneficial
<p>Notes</p> <p>Only enter a value where a sensitivity v magnitude effects has been used – otherwise 'Not Applicable'</p> <p>Enter either: International, European, United Kingdom, Regional, County, Borough/District or Local</p> <p>Enter either: Major/Moderate/Minor/Negligible AND state whether Beneficial or Adverse (unless negligible)</p>											



## 14. Historic Environment

### 14.1 Introduction

- 14.1.1 This Chapter of the ES presents the findings of EIA completed in relation to the construction and operational impacts of the Proposed Development on the Historic Environment.
- 14.1.2 This Chapter has been prepared by Alex Cassels, Principal Heritage Consultant at Cura Terrae. Alex holds a PhD in archaeology and is a member of the Chartered Institute of Archaeologists. He has worked in the industry for over 10 years, spending the last eight in consultancy producing Statements of Significance, Impact Statements and EIA. Further competency details are provided in Appendix 1.2 (Volume 3).
- 14.1.3 This Chapter summarises information from supporting studies, technical reports and publicly available data which are included within the Archaeological Desk-based Assessment (ADBA; Appendix 14.1; Volume 3).

### 14.2 Legislative and Planning Framework

#### Relevant Legislation

- 14.2.1 The principal legislative and planning context in relation to the assessment of the effects of the Proposed Development on Cultural Heritage is presented below.
- 14.2.2 There is national legislation relating to the protection of, and development on, or near, important archaeological sites or historical buildings within planning regulations as defined under the provisions of the Town and Country Planning Act 1990. In addition, the following legislation has informed the assessment within this Chapter:
- Ancient Monuments and Archaeological Areas Act 1979; and
  - Planning (Listed Buildings and Conservation Areas) Act 1990.

#### Relevant Planning Policy

##### Local Policy

- 14.2.3 Local planning policy of relevance to Cultural Heritage and Archaeology and pertinent to the Proposed Development includes policies contained within the Hinckley and Bosworth Borough Council Local Plan Core Strategy (2009). Hinckley and Bosworth District Council are currently working on a new Local Plan, which will set out land allocations and planning policies for the period 2020 to 2041.

##### National Policy

- 14.2.4 National planning policy of relevance to Cultural Heritage and Archaeology and pertinent to the Proposed Development is contained within the National Planning Policy Framework (NPPF; 2024). The NPPF is supported by the Government's Planning Practice Guidance (PPG) which provides further advice and expands on the guidance and policy outlined in the NPPF.
- 14.2.5 A full discussion of the legislative and planning Framework is included in the ADBA (Appendix 14.1; Volume 3).



## 14.3 Assessment Approach

### Consultation

14.3.1 Consultation and engagement have informed the Cultural Heritage assessment. Table 14.1 outlines engagement that has been undertaken to inform this assessment.

**Table 14.1: Key Consultation information**

Consultee	Points raised	Response
Pre-app	The planning application should include an archaeological desk-based assessment and an appropriate field evaluation.	An ADBA has been produced for the Site. Further consultation with Leicestershire County Council Archaeology has confirmed the requirement for archaeological fieldwork but has confirmed that this could be secured <i>via</i> a planning condition post-determination.
EIA Scoping	A Heritage Assessment is to be submitted with the application, and further information is to be included in an ES.	An ADBA has been produced for the Site (Orion, 2025) and Cultural Heritage has been included within this ES.
Leicestershire County Council Archaeology	Confirmed requirement for further archaeological work which could be secured as a condition of planning approval.	A programme of archaeological fieldwork comprising an initial phase of geophysical survey followed by a targeted archaeological evaluation is proposed as mitigation.

### Methodology

14.3.2 Chapter 2 Assessment Methodology of the ES describes the general approach to the assessment. This section of the report provides specific details of the Cultural Heritage methodology applied to the assessment of the Proposed Development.

14.3.3 In addition to the legislation and national and local planning policies outlined in Chapter 14.2, this assessment has also been carried out in accordance with the following professional standards and guidance:

- Historic England's Historic Environment Good Practice Advice in Planning Notes:
  - The Historic Environment in Local Plans<sup>105</sup>;
  - Managing Significance in Decision-Taking in the Historic Environment<sup>106</sup>; and
  - The Setting of Heritage Assets<sup>107</sup>.
- Historic England Advice Note 12: Statements of Heritage Significance: Analysing

<sup>105</sup> Historic England, 2015a, Historic Environment Good Practice Advice in Planning 1

<sup>106</sup> Historic England 2015b, Historic Environment Good Practice Advice in Planning 2

<sup>107</sup> Historic England 2017, Historic Environment Good Practice Advice in Planning 3



Significance in Heritage<sup>108</sup>;

- The Chartered Institute for Archaeologists' Standard and guidance for historic environment desk-based assessment<sup>109</sup>; and
- The Chartered Institute for Archaeologists' Code of Conduct<sup>110</sup>.

### Study Area

- 14.3.4 The spatial scope of the assessment was defined by a 1 km study area around the Site for the Historic Environment Record (HER) data and a 5 km study area for designated heritage assets. A Zone of Theoretical Visibility (ZTV) has been used to inform potential intervisibility between the Site and designated heritage assets. The study area has been defined so as to identify designated and non-designated assets, their setting and geographical extent, and to inform the context of and potential survival of archaeological remains within the Site and its immediate surrounding area.

### Temporal Scope of Assessment

#### Construction

- 14.3.5 For the assessment, construction effects will be taken to be those for which the source begins and ends during the construction of the Proposed Development, as set out in Chapter 4 Proposed Development. The assumed assessment period for construction is Q4 2025 to Q4 2026.

#### Operation and maintenance

- 14.3.6 For the assessment of operation and maintenance, these are the effects that begin once the Proposed Development is fully operational and includes the effects of the physical presence of the infrastructure, its operation, use and maintenance, including the permanent change in land use.
- 14.3.7 The assessment of operational effects will be the first full 12 months of operation. The Proposed Development should become operational in Q1 2027.

#### Duration of Effects

- 14.3.8 Timescales associated with these effects, regardless of phase are as follows:
- short- term – endures for up to 12 months after construction;
  - medium-term – endures for 1-5 years;
  - long-term – endures for 5-15 years; and
  - permanent effects – endures for more than 15 years and/or effects which cannot be reversed.

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<sup>108</sup> Historic England, 2019, Historic England Advice Note 12

<sup>109</sup> Chartered Institute for Archaeologists, 2020, Standards and Guidance for Historic Environment Desk-Based Assessment

<sup>110</sup> Chartered Institute for Archaeologists, 2022, Code of Conduct: Professional Ethics in Archaeology



### Assessment Methodology

14.3.9 There is no single accepted or standard guidance for the assessment of the likely effects of development on the historic environment resource. Although developed for use on trunk road schemes, the Design Manual for Roads and Bridges (DMRB; January 2020 and August 2020) sets out a detailed methodology for considering the historic environment which, to date, represents the most comprehensive published guidance. This chapter utilises this methodology as a basis for its assessment.

14.3.10 An ADBA of cultural heritage records was compiled to establish a baseline against which the impact assessment was carried out (Appendix 14.1; Volume 3). The ADBA baseline conditions were established through desk-based review of existing sources of information, supported where appropriate by the use of field survey, and by consultation with statutory authorities. The assessment included a comprehensive desk-based review of data gathered from the following sources:

- National Heritage List for England (NHLE);
- Leicestershire Historic Environment Record (LHER) comprising a database of all recorded archaeological sites, findspots, and archaeological events within the county/national park;
- historic mapping;
- Environment Agency LiDAR data;
- aerial photography available online;
- relevant primary and secondary sources including published and unpublished archaeological reports relating to excavations; and
- a site visit.

14.3.11 A subsequent site visit was undertaken in April 2025 in order to for the purposes of this ES chapter. The purpose of the site visit was to assess the general character of the Site and to identify heritage assets not identified through desk-based review.

### Assessment of Significance

14.3.12 The ADBA (Appendix 14.1; Volume 3) established the baseline conditions, which are summarised within this chapter. The survey sought to establish archaeological potential, validate the baseline conditions and to assist in the assessment of significance.

14.3.13 Within this assessment, heritage significance is defined in terms of value to this and future generations because of heritage interest. For planning purposes, the NPPF defines that this interest may be archaeological, architectural and/or artistic or historic:

- archaeological interest: As defined in the Glossary to the National Planning Policy Framework, there will be archaeological interest in a heritage asset if it holds, or potentially holds, evidence of past human activity worthy of expert investigation at some point;
- architectural and artistic interest: These are interests in the design and general aesthetics of a place. They can arise from conscious design or fortuitously from the way the heritage asset has evolved. More specifically, architectural interest is an





interest in the art or science of the design, construction, craftsmanship and decoration of buildings and structures of all types. Artistic interest is an interest in other human creative skill, like sculpture; and

- historic interest: An interest in past lives and events (including pre-historic). Heritage assets can illustrate or be associated with them. Heritage assets with historic interest not only provide a material record of our nation's history but can also provide meaning for communities derived from their collective experience of a place and can symbolise wider values such as faith and cultural identity.

14.3.14 The overall significance of a heritage asset is the sum value of its interest expressed on a four-point scale of High, Medium, Low and Negligible as presented in Table 14.2. The higher the significance of an asset, the more sensitive to change they are.

**Table 14.2: Criteria for grading the significance of heritage assets**

Heritage Significance	Criteria
High	World Heritage Sites, Scheduled Monuments, Listed Buildings (Grade I, II*), Conservation Areas which contain a significant number of highly graded assets, Registered Historic Parks and Gardens (Grade I, II*), Registered Battlefields, Protect Wreck Site, or non-designated heritage assets of demonstrable national importance due to their heritage interest.
Medium	Listed Buildings (Grade II), Registered Historic Parks and Gardens (Grade II), or non-designated heritage assets of demonstrable regional importance due to their heritage interest.
Low	Locally Listed Buildings and Landscapes or non-designated heritage assets of demonstrably limited heritage interest.
Negligible	Non-designated heritage asset of very limited heritage interest, typically due to poor preservation, survival or restricted contextual associations.

### Assessment of Magnitude of Impact

14.3.15 The assessment of the magnitude of impact is the identification of the degree of change to elements of the historic environment that result from the Proposed Development. There is no standard scale of comparison against which the severity of effects on the historic environment may be judged because of the great variety of resources and receptors. The assignment of a magnitude of impact is a matter of professional judgement.

14.3.16 Impacts may be adverse, neutral or beneficial. The magnitude of impacts (whether physical or through changes to setting) on heritage assets has been assigned a value of high, medium, low, negligible, or no change as shown in Table 14.3.

**Table 14.3: Criteria for determining the magnitude of impact**

Magnitude of Impact	Description
High	Complete destruction or a fundamental, substantial change of an asset or historic environment feature. Change to most or all key elements of the historic environment, such that the resource is totally altered.



Magnitude of Impact	Description
Medium	A considerable change or appreciable difference to the existing baseline. Changes to many key elements of the historic environment, such that the resource is clearly modified.
Low	A minor change to the baseline condition of a heritage asset. Changes to the key elements of the historic environment, such that the asset is slightly altered.
Negligible	A barely distinguishable change to the historic environment baseline.
No change	No change to an asset.

#### Determination of the significance of effect

14.3.17 The level of effect is informed by the magnitude of change due to the Proposed Development and the evaluation of the sensitivity of the affected receptor. A matrix for aiding this process is presented in Table 14.4; however, the level of effect remains a matter of professional judgement.

14.3.18 Professional judgement is applied to arrive at a statement of significance of effect under the EIA Regulations, taking into account the significance of the heritage asset, and all relevant aspects of the predicted change including the susceptibility to change of the nature and magnitude predicted; the proportion and importance of the asset or its setting that would be affected; the duration of the effect, and whether the effect is direct or indirect.

14.3.19 The significance of effect is expressed as major, moderate, minor or negligible. For the purposes of this report a 'significant impact' under the EIA Regulations is considered to comprise a moderate or major effect unless alternatively defined. Minor effects are considered to be 'not significant', although they may be a matter of local concern and negligible effects are considered to be 'not significant'.

14.3.20 For each effect, it has been concluded whether the effect is 'beneficial' or 'adverse'.

**Table 14.4: Matrix to support determining the level of effect**

Magnitude of change	Sensitivity of receptor				
		High	Medium	Low	Negligible
	High	Major	Major	Moderate	Negligible
	Medium	Major	Moderate	Minor to Moderate	Negligible
	Low	Moderate	Minor to Moderate	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

14.3.21 The following terms are used to define the level of the effects identified and these can be 'beneficial' or 'adverse':

- major effect: where the Proposed Development is likely to cause a considerable change from the baseline conditions and the receptor has limited adaptability, tolerance or recoverability or is of the highest sensitivity;
- moderate effect: where the Proposed Development is likely to cause either a



considerable change from the baseline conditions at a receptor which has a degree of adaptability, tolerance or recoverability or a less than considerable change at a receptor that has limited adaptability, tolerance or recoverability;

- minor effect: where the Proposed Development is likely to cause a small, but noticeable change from the baseline conditions on a receptor which has limited adaptability, tolerance or recoverability or is of the highest sensitivity; or where the Proposed Development is likely to cause a considerable change from the baseline conditions at a receptor which can adapt, is tolerant of the change or/and can recover from the change; and
- negligible: where the Proposed Development is unlikely to cause a noticeable change at a receptor, despite its level of sensitivity or there is a considerable change at a receptor which is not considered sensitive to a change.

14.3.22 For each residual effect, a statement is made as to whether the level of effect is 'Significant' or 'Not Significant'. This determination is based on professional judgement and/or relevant guidance/legislation where applicable.

14.3.23 Significance is only concluded for residual effects (i.e. following the identification of secondary mitigation).

#### **Assumptions and Limitations**

14.3.24 The assessment is compiled using secondary information derived from a variety of sources, only some have been directly examined. The assumption is made that this data as well as that derived from other secondary sources, is reasonably accurate. In addition, the records held by the LHER represent a record of a wide range of information derived from historical sources and previous archaeological discoveries and does not preclude the subsequent discovery of further elements of the historic environment that are, at present, unknown.

14.3.25 A site visit was undertaken as part of this assessment to identify any potential archaeological remains. Despite sufficient access being afforded to the Site, observations are limited since there is the potential for archaeological remains to survive below-ground with no surface indications. It is possible that unknown archaeological remains may be present, and the presence of dense vegetation, scrub and crop may have inhibited their identification.

## **14.4 Baseline Conditions**

### **Designated Heritage Assets**

14.4.1 There are no designated heritage assets located within the Site.

14.4.2 Within 1 km of the Site there is one Grade II Listed Building comprising Pickering Grange Farmhouse (NHLE: 1074369; Appendix 14.1, Figure 2 (LHER ref: MLE12363) in Volume 3).

14.4.3 There are no World Heritage Sites, Grade I Listed Buildings, Registered Parks and Gardens or Registered Battlefields within the 5 km ZTV study area.

14.4.4 Within the 5 km ZTV study area there are:

- three Scheduled Monuments;
- seven Grade II\* Listed Buildings;



- 48 Grade II Listed Buildings; and
- six Conservation Areas.

14.4.5 Pickering Grange Farm is located within 1 km of the Site and is situated within the ZTV and has therefore been scoped into this assessment. The remaining designated heritage assets are effectively screened from the Site by intervening topography, vegetation, and development. This has been confirmed by the site visit. The heritage significance of these assets cannot be appreciated or experienced from the Site and it is therefore considered that the Site makes no contribution to the setting of these assets. Their heritage significance would not be impacted by the Proposed Development.

#### Statement of Significance

- 14.4.6 Pickering Grange Farm (NHLE: 1074369) is a two-storey, red-brick farmhouse constructed in two distinct sections. The eastern portion of the building is nineteenth century whilst the western, earlier portion is seventeenth century or earlier. The building is considered to be of medium significance as a result of its historic and architectural interests. The building is a good example of a post-medieval farmhouse which is characteristic of the agricultural buildings of the era. The building also has a historic link as a grange farm to the abbey of Garendon, located to the northeast at Shepshed. The land was given to the abbey in c. 1140 and was leased to John Pickering in 1531. There are indications that the original house was moated.
- 14.4.7 The farmhouse is associated with the agricultural outbuildings which make up the current livery stables. The farmstead remains agricultural in character which provides an appreciation of the historic function of the Listed Building. The land surrounding the farmstead remains in agricultural use and provides an appropriate rural context for Pickering Grange Farmhouse.
- 14.4.8 The Site is located c. 750 m south east of the Listed Building separated by intervening fields, hedgerows, the B585, and mature woodland that borders the north of the Site. While the Site forms part of the wider agricultural landscape, its contribution to the significance of the asset is limited.

#### **Historical Summary and Archaeological Potential**

- 14.4.9 There are no identified non-designated heritage assets located within the Site. This section, therefore, presents a summary of the potential for archaeological remains to be present within the Site, based on evidence from known assets within the study area. The below is summarised from the ADBA (Appendix 14.1; Volume 3).

#### Prehistoric and Roman

- 14.4.10 Within the study area, evidence for prehistoric activity is limited to two findspots of flint scatters c. 1 km and 1.4 km northwest of the Site respectively. The findspots included examples of a possible Mesolithic date as well as later worked flints.
- 14.4.11 There is limited evidence for Roman activity within the study area although the proximity of the purported route of the Roman road raises the possibility of some form of roadside activity to be present. The route of the *Via Devana* Roman road, which ran between Colchester, Cambridge, and Chester traverses the study area on a northwest to southeast alignment c. 170 m northeast of the Site. Fieldwalking to the northwest of the Site identified two areas of finds which included Iron Age and Romano-British pottery, roofing material, a belt fitting, a glass bead, and a brooch.



#### Early Medieval and Medieval

- 14.4.12 The village of Bagworth, to the southeast of the Site, is recorded within the Domesday Survey of 1086, thereby indicating that the settlement was extant by at least the end of the early medieval period. During the medieval period, the manor of Bagworth included a deer park, first recorded in 1279 under the holdings of the Bishopric of Durham. In 1474, William Hastings obtained a licence to impark 2000 acres alongside licenses to crenellate at Ashby-de-la-Zouch and Kirby Muxloe.
- 14.4.13 The Grade II Listed Pickering Grange Farmhouse (c. 750 m north west; NHLE: 1074369) is seventeenth century, or earlier, in date but takes its name from a medieval grange for the abbey of Garendon. The abbey obtained the grange in 1140 and John Pickering leased the grange in 1531. There are indications of the earlier layout of the complex through earthworks of enclosures, ponds, and a possible moat.

#### Post-medieval and Twentieth Century

- 14.4.14 The Site sits within a landscape that was in agricultural use during the post-medieval period with increasing extractive industries as the nineteenth century progressed.
- 14.4.15 To the immediate east of the Site was the Bagworth Brickworks which were in use from the late nineteenth century until 1931. Approximately 250 m southwest of the Site is the former location of the Nailstone Colliery which is first depicted on mapping in the late nineteenth century and continued extractive industry until 1991. A mineral railway from the colliery ran alongside the western and northern boundaries of the Site. The railway was opened in 1862 and was subsequently replaced by an overland conveyer in 1979. The 1983 Ordnance Survey map depicts the course of the conveyer running along the southern boundary of the Site. The LHER also records further mineral railways and the Ellistown Collieries, Brick Pipe and Fireclay Works within the study area.
- 14.4.16 Historic mapping indicates that part of the northern portion of the Site was in use as a playing field during the second half of the twentieth century. Lidar imagery depicts three large rectangular areas of cut ground and two associated banks within the Site. Boreholes within these features have recorded deposits of made ground to a depth of 0.7 m – 1 m.

#### **Future Baseline**

- 14.4.17 This section considers changes to the baseline conditions, described above, which might occur during the time period over which the Proposed Development will be in place. It considers changes that might occur in the absence of the Proposed Development being implemented.
- 14.4.18 The archaeological baseline described above is site specific and would not be substantially or materially affected by the likely future baseline conditions of planned developments external to the Site. As such, likely future baseline conditions are considered to be synonymous with the existing baseline conditions.
- 14.4.19 It is unlikely that a significant number of built heritage assets will be added to the baseline in the future. The built heritage baseline is unlikely to undergo significant change.
- 14.4.20 It is unlikely that a significant number of historic landscapes will be added to the baseline in the future. The historic landscape baseline is unlikely to undergo significant change.



## 14.5 Assessment of Effects

### Construction

#### Physical Impacts

- 14.5.1 The potential for direct physical impacts to arise during the construction phase relates primarily to the potential for excavations and groundworks to affect any below ground archaeological remains that may be present within the footprint of the Proposed Development. The following activities have theoretical potential to result in direct impacts on buried archaeological remains:
- pre-construction impacts associated with ground investigation works;
  - construction ground works, including stripping and excavation associated with service trenches and access points;
  - ground reduction and/or landscaping;
  - installation of fencing; and
  - landscaping planting.
- 14.5.2 Whilst the effects upon the archaeological resource as a result of the pre-construction and construction works would be direct, adverse and irreversible, the magnitude of impact varies depending on the work proposed.
- 14.5.3 The predicted magnitude of impact on any potential and known archaeological remains where extensive construction activities are likely to remove or extensively truncate them would be a permanent high impact.
- 14.5.4 It is anticipated that the Site has a low potential to contain archaeological remains from the prehistoric, Romano-British, and medieval periods. Any such remains, if present, would be most likely to be stray finds or individual features of low sensitivity. Construction activity could result in a high adverse impact on these remains, if present, which would result in a moderate significance of effect. This effect is significant under EIA Regulations without mitigation.

#### Non-physical Impacts

- 14.5.5 The construction phase would include the addition of plant movement and noise within the Site. The Site is located c. 750 m southeast of Pickering Grange Farm (NHLE: 1074369). The Grade II Listed Building is of medium sensitivity. It is anticipated that the addition of plant movement and noise within the wider agricultural setting of the building would result in a negligible adverse impact to the appreciation of the asset resulting in a negligible adverse significance of effect which is not significant.

### Operation

#### Physical Impacts

- 14.5.6 No additional impacts would occur upon the archaeological resource during the Operational Phase. Consequently, these are not discussed further in this section.

#### Non-physical Impacts

- 14.5.7 The main potential for effects to heritage assets during the operation of the Proposed



Development relate to its introduction within the landscape which has the potential to impact upon the setting of these assets. Impacts could also arise from:

- position in relation to views;
- conspicuousness; and
- change in character.

14.5.8 The Site is located c. 750 m southeast of the Grade II Listed Pickering Grange Farm (NHLE: 1074369). The Site, consisting of a mixture of agricultural field and plantation woodland in its eastern portion, forms part of the wider rural landscape surrounding the asset. Some alteration to the historic setting has resulted from the planting of the National Forest to the west of the Listed Building and remediation of former collieries and brickworks within the wider landscape. During the Site assessment it was determined that there is no intervisibility due to topography and intervening mature woodland to the immediate north of the Site.

14.5.9 The Proposed Development would introduce a warehouse with associated parking, access and landscaping. It is anticipated that due to the intervening vegetation and topography, that the warehouse building would not be visible in views across the landscape from the Listed Building. The Proposed Development would result in the loss of an agricultural field within the wider setting of Pickering Grange Farm but the rural character of the building and the contribution that this makes to an appreciation of the heritage significance of the building would remain largely unchanged.

14.5.10 The introduction of the Proposed Development would, therefore, result in a negligible impact on an asset of medium sensitivity and result in a negligible adverse significance of effect which is not significant.

## 14.6 Mitigation, Enhancement and Residual Effects

14.6.1 This section refers to the types of mitigation used as part of the Proposed Development, as defined in Chapter 2 Assessment Scope and Methodology, and how they apply to the assessment of Cultural Heritage.

14.6.2 The Applicant has sought to identify and incorporate suitable measures and mitigation for potentially significant adverse effects, as well as maximising beneficial effects where possible. This has been achieved through an iterative process including consultation and engagement with consultees and through the EIA process.

14.6.3 Some primary and tertiary measures are embedded in the design of the Proposed Development, including the location and size of infrastructure, as defined in the Work Plans. Other measures are either secondary, termed tertiary, such as control and management plans, or measures integrated into legal requirements *via* environmental permits and consents.

14.6.4 The following sets out the embedded measures (primary), legal requirements (tertiary) and additional measures (secondary) relevant to the assessment of Historic Environment.





## Construction

### Physical Impacts

#### *Embedded Measures*

- 14.6.5 There are no proposed embedded measures relating to the historic environment.

#### *Additional Measures*

- 14.6.6 A staged approach of mitigation works is proposed with regard to the archaeological resource. The first stage would comprise a geophysical survey to provide further information regarding the archaeological potential of the Site. The second stage, if necessary, would comprise an archaeological evaluation targeted upon the geophysical anomalies identified within the geophysical survey as likely to be archaeological in origin. The results of this stage would allow for an appropriate strategy of mitigation to be devised. Should the results of the geophysical survey or archaeological evaluation not identify any remains of archaeological interest, no further mitigation work is considered necessary on the Site.
- 14.6.7 The requirement for further works would be determined in consultation with the Leicestershire County Council Archaeologist in their role as advisor to Hinckley and Bosworth Borough Council; the consultation will be informed by the results of the geophysical survey and, if required, the archaeological evaluation.
- 14.6.8 The scope and methodology of any further mitigation would be outlined in a Written Scheme of Investigation (WSI). The WSI would be submitted to the Leicestershire County Council Archaeologist in their role as advisor to Hinckley and Bosworth Borough Council for approval prior to any work being undertaken. The staged approach for mitigation works outlined above has been devised based on sector guidance and best practice and can be controlled *via* planning condition.

### Non-Physical Impacts

- 14.6.9 There are no specific mitigation measures proposed for non-physical impacts to the historic environment due to the limited effects of the Proposed Development on the setting of heritage assets.

### Residual

- 14.6.10 Whilst a suitable staged programme of archaeological mitigation works would not completely offset the effect on the potential archaeological resource as a result of the Proposed Development, it would ensure that an understanding of any archaeological remains is preserved by record.
- 14.6.11 The Site is considered to have a low potential for the survival of archaeological remains of prehistoric, Romano-British and medieval date. The sensitivity of these remains is low and the significance of effect, before mitigation, is moderate. Therefore, there is likely to be a minor residual effect following the implementation of mitigation measures. This effect is not significant.





## Operation

### Physical Impacts

- 14.6.12 No additional impacts would occur upon the archaeological resource during the Operational Phase. Consequently, no further mitigation measures are proposed for the Operational Phase.

### Non-Physical Impacts

- 14.6.13 There are no specific mitigation measures proposed for non-physical impacts to the historic environment due to the limited effects of the Proposed Development on the setting of heritage assets.

### Residual

- 14.6.14 During the operational phase there is expected to be no additional impact to any buried archaeological resource subsequent to the impacts of the construction phase.
- 14.6.15 The Proposed Development would result in the loss of an agricultural field within the wider setting of Pickering Grange Farm, a Grade II Listed Building, but the rural character of the building and the contribution that this makes to an appreciation of the heritage significance of the building would remain largely unchanged. The introduction of the Proposed Development would, therefore, result in a negligible adverse impact on an asset of medium sensitivity and result in a negligible adverse significance of effect which is not significant.

## 14.7 Cumulative and In-Combination Effects

- 14.7.1 Cumulative effects are those arising from impacts of the Proposed Development in combination with impacts of other proposed or consented development projects that are not yet built or operational.
- 14.7.2 The potential for additional cumulative effects to the historic environment arising from the Proposed Development in combination with other existing and consented schemes was assessed within the Cumulative Impact Screening. One known development was considered as part of this screening exercise (Planning ref: 06/00980/OUT).
- 14.7.3 The impact of the Proposed Development on archaeological remains are limited to the Site. The physical impact which would result from the construction phase would have no cumulative impact in combination with other existing and consented schemes.
- 14.7.4 The Proposed Development would not be viewed cumulatively with other permitted developments from the Grade II Listed Pickering Grange Farmhouse (NHLE: 1074369). The permitted Aldi storage and distribution hub is located c. 1.2 km south of the Listed Building and is separated by intervening development within Battram. In combination, the Proposed Development and the permitted scheme would not result in an appreciable erosion of the rural setting of Pickering Grange Farmhouse. There would therefore be no cumulative impact from the Proposal on the heritage sensitivity of this designated heritage asset.

## 14.8 Statement of Significance

### **Construction Phase**

- 14.8.1 There is considered to be a low potential for the survival of archaeological remains of Iron Age, Roman and medieval date within the build footprint of the Proposed Development. It is



considered that these remains would be of low sensitivity. The construction phase of the Proposed Development would result in the total removal of any archaeological remains present within the footprint of the groundworks required. It is considered that this would be a high impact on remains of low sensitivity resulting in a moderate adverse effect which is significant in EIA terms without mitigation. It is proposed that mitigation measures, comprising an agreed programme of archaeological work, would reduce the level of effect to minor adverse which is not significant.

- 14.8.2 The construction phase would include the addition of plant movement and noise within the Site. The Site is located c. 750 m southeast of Pickering Grange Farm (NHLE: 1074369). The Grade II Listed Building is of medium sensitivity. It is anticipated that the addition of plant movement and noise within the wider agricultural setting of the building would result in a negligible adverse impact to the appreciation of the asset resulting in a negligible adverse significance of effect which is not significant.

#### **Operational Phase**

- 14.8.3 No additional impacts would occur upon the archaeological resource during the Operational Phase.
- 14.8.4 The Proposed Development would introduce a warehouse with associated parking, access and landscaping into the wider landscape of Pickering Grange Farm (NHLE: 1074369). It is anticipated that due to the intervening vegetation and topography, that the warehouse building would not be visible in views across the landscape from the Listed Building. The Proposed Development would result in the loss of an agricultural field within the wider setting of Pickering Grange Farm but the rural character of the building and the contribution that this makes to an appreciation of the heritage significance of the building would remain largely unchanged. The introduction of the Proposed Development would, therefore, result in a negligible adverse impact on an asset of medium sensitivity and result in a negligible adverse significance of effect which is not significant.

#### **Mitigation, Enhancement and Residual Effects**

- 14.8.5 A summary of potential environmental effects, mitigation and monitoring is provided in Table 14.5. Table 14.5 summarises all mitigation in relation to Historic Environment, how these measures are secured, the party responsible for the implementation of the measure, when the measure would be delivered and any mechanisms to deliver the measure.



Table 14.5: Cultural Heritage and Archaeology summary

Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Initial classification of effect	Significance of Effects	Mitigation/ Enhancement Measures	Securing mechanism	Residual Effects
<b>Construction</b>										
Potential remains of prehistoric, Roman and medieval date	Physical impacts during construction	Physical	Low	High	Local	Moderate Adverse	Moderate Adverse	Archaeological Fieldwork	Planning Condition	Minor Adverse
Pickering Grange Farm (NHLE: 1074369)	Construction Noise and traffic	Non-physical	Medium	Negligible	Regional	Negligible	Negligible	None proposed	Not Applicable	Negligible
<b>Operation</b>										
Pickering Grange Farm (NHLE: 1074369)	Removal of agricultural field within wider landscape	Non-physical	Medium	Negligible	Regional	Negligible	Negligible	None proposed	Not Applicable	Negligible



## 15. Socio-Economics

### 15.1 Introduction

- 15.1.1 This Chapter of the ES presents the findings of EIA completed in relation to the construction and operational impacts of the Proposed Development on socio-economics.
- 15.1.2 This assessment was prepared by Envance who have prepared socio-economic chapters for a range of similar scale developments within the UK (see Appendix 1.2, Volume 3).
- 15.1.3 This Chapter summarises information from supporting studies, technical reports and publicly available data to determine the baseline socio-economic conditions, specifically labour force and the economy, and the estimated socio-economic effects, both direct and indirect, of the Proposed Development during construction and operational phases. This assessment focuses on the potential effects on the surrounding population and the impact this may have on relevant services and facilities within the local economy.

### 15.2 Legislative and Planning Framework

- 15.2.1 The principal legislative and planning context in relation to the assessment of the effects of the Proposed Development on socio-economics is presented below.

#### Relevant Legislation

- 15.2.2 Section 1 of The Equality Act 2010<sup>111</sup> places a duty on public bodies to consider the socio-economic effects of development, requiring them to adopt transparent and effective measures to address the inequalities that result from differences in occupation, education, place of residence or social class. The Act states the following:

*“An authority to which this section applies must, when making decisions of a strategic nature about how to exercise its functions, have due regard to the desirability of exercising them in a way that is designed to reduce the inequalities of outcome which result from socio-economic disadvantage.”*

#### National Planning Policy Framework

- 15.2.3 The most recent NPPF was published in February 2025<sup>112</sup>. A key focus of the framework is to achieve sustainable development through the economic, social and environmental objectives.
- 15.2.4 The NPPF places significant weight on the need to support economic growth and productivity. Chapter 6 of the NPPF sets out the objective of building a strong and competitive economy. Paragraphs 86, 87 and 114 expands on these aims as follows:
- 15.2.5 Paragraph 86 places significant weight on the need to support economic growth and productivity setting out the objective of building a strong and competitive economy. Planning policies should:
- set out a clear economic vision and strategy which positively and proactively

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<sup>111</sup> Equality Act 2010, Section 1: Socio-economic inequalities.

<sup>112</sup> National Planning Policy Framework (2024). Department for Levelling Up, Housing and Communities. Published 12 December 2024 (updated 7 February 2025).



encourages sustainable economic growth, having regard to Local Industrial Strategies and other local policies for economic development and regeneration;

- set criteria, or identify strategic sites, for local and inward investment to match the strategy and to meet anticipated needs over the plan period;
- seek to address potential barriers to investment, such as inadequate infrastructure, services or housing, or a poor environment; and
- be flexible enough to accommodate needs not anticipated in the plan, allow for new and flexible working practices, such as live-work accommodation, and to enable a rapid response to changes in economic circumstances.

15.2.6 Paragraph 87 (b) states that planning policies and decisions should recognise and address the specific locational requirements of different sectors. This includes making provision for storage and distribution operations at a variety of scales and in suitably accessible locations that allow for the efficient and reliable handling of goods, especially where this is needed to support the supply chain, transport innovation and decarbonisation; and

15.2.7 Paragraph 114 states planning policies and decisions should recognise the importance of providing adequate overnight lorry parking facilities, taking into account any local shortages, to reduce the risk of parking in locations that lack proper facilities or could cause a nuisance. Proposals for new or expanded distribution centres should make provision for sufficient lorry parking to cater for their anticipated use.

#### Hinckley and Bosworth Borough Council Core Strategy (2006-2026)

15.2.8 The Hinckley and Bosworth Borough Council Core Strategy<sup>113</sup> (adopted December 2009) has been developed within the borough. It outlines the vision of the area and the aims and objectives to enable development in Hinckley and Bosworth Borough.

15.2.9 The Core Strategy has the vision that:

*“In 2026, Hinckley and Bosworth will be a thriving, successful borough exemplifying green sustainable development across the East Midlands. More residents will be choosing to work locally as higher-paid jobs are provided through the successful diversification of the economy. There will be a lively and diverse rural economy, underpinning thriving village communities and village-based services. In particular, the key rural centres of Barlestone, Desford, Groby, Market Bosworth, Markfield, Newbold Verdon, Ratby, Stoke Golding, Bagworth, and Thornton will provide the necessary day-to-day services to ensure rural communities have the choice to shop, work, and play close to where they live.”*

15.2.10 In order to achieve this vision, Hinckley and Bosworth Borough Council aims to strengthen and diversify the economy by ensuring sufficient, sustainably located, and high-quality land and premises. This strategy will encourage the growth of high-value manufacturing, business services, tourism, rural diversification initiatives, and the cultural and creative industries. The focus for new employment will be in Hinckley, reflecting its status as a sub-regional centre, while Earl Shilton and Barwell will be supported for regeneration. Smaller-scale employment will be encouraged in key rural centres to sustain the rural economy.

15.2.11 The Core Strategy identifies a series of strategic objectives, including ensuring a strong and

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<sup>113</sup> Hinckley and Bosworth Borough Council (2009). *Hinckley and Bosworth Borough Council Core Strategy 2006–2026*. Adopted December 2009.



diverse economy, fostering strong and vibrant rural communities, and enhancing infrastructure provision. Another key objective addresses climate change and resource efficiency, emphasising the need for sustainable development patterns, investment in green infrastructure, reduced resource consumption, and increased use of renewable energy technologies.

- 15.2.12 Hinkley and Bosworth Borough Council aims to improve access to services and facilities, particularly in rural areas where the decline of local services has been identified as a key issue. To ensure a high quality of life and long-term economic resilience, a central theme of Hinkley and Bosworth Borough Council Core Strategy is to ensure all rural and urban communities have access to necessary amenities and employment opportunities. This is to be achieved by promoting sustainable rural regeneration, supporting appropriate rural diversification initiatives, enhancing infrastructure, and ensuring that development is directed to accessible locations where it can help sustain or improve service provision.

#### Leicester and Leicestershire Strategic Growth Plan

- 15.2.13 The Strategic Growth Plan for Leicester and Leicestershire<sup>114</sup> is a collaborative framework developed by local authorities and the Leicester and Leicestershire Enterprise Partnership (LLEP) to guide the region's development up to 2050. Its primary aim is to manage growth effectively, ensuring that economic prosperity, infrastructure development, and housing needs are addressed in a sustainable manner. Key socio-economic aspects include:

- economic growth and employment:
  - strengthening Leicester and Leicestershire's economic base by attracting investment and supporting business expansion;
  - identify key sectors for growth; and
  - create a diverse range of employment opportunities to cater to the evolving job market.
- infrastructure and connectivity:
  - Enhance transport and digital infrastructure to improve connectivity within the region and beyond; and
  - Improve infrastructure to facilitate business operations, attract investment, and provide residents with better access to employment opportunities.

- 15.2.14 By integrating these socio-economic elements, the Strategic Growth Plan seeks to foster a balanced and sustainable approach to growth and aims to enhance the quality of life for residents and ensuring long-term economic resilience in Leicester and Leicestershire.

#### Hinkley and Bosworth Economic Regeneration Strategy

- 15.2.15 The Hinkley and Bosworth Borough Council's Economic Regeneration Strategy sets out an ambition for a prosperous and resilient local economy, with a focus on supporting business growth, creating high-quality employment, and revitalising key settlements.
- 15.2.16 The strategy places particular emphasis on supporting the logistics, manufacturing, and technology sectors while encouraging the delivery of new employment sites, the expansion

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<sup>114</sup> Leicester and Leicestershire Authorities (2018). Leicester and Leicestershire Strategic Growth Plan: Our Vision for Growth to 2050. Published December 2018.



of existing ones, and the promotion of inward investment, especially on well-connected land close to strategic transport corridors. There is a strong focus on improving accessibility to jobs for local residents, improving skills development by working collaboratively with education providers, and delivering infrastructure that supports business development.

#### Leicestershire County Council's Strategic Plan

15.2.17 The Leicestershire County Council Strategic Plan 2024–2026<sup>115</sup> sets out five overarching outcomes that underpin strategic growth in the county: a strong economy, sustainable infrastructure, improved opportunities for all, a clean and green environment and safe and well-connected communities. Three of these outcomes are particularly relevant to the Proposed Development. These include supporting a strong economy through the delivery of employment land and infrastructure to meet housing and economic demand, particularly in areas experiencing growth pressure. The Plan also promotes sustainable infrastructure by encouraging the development of clean, efficient infrastructure and by ensuring that the local workforce has the skills to meet the needs of growing sectors such as logistics, transport, and digital services. In addition, the Plan seeks to improve opportunities for all by encouraging developments that contribute to sustainable economic productivity while embedding green infrastructure and carbon reduction into their design and operation.

### 15.3 Assessment Approach

#### **Methodology**

15.3.1 There is no specific guidance available which establishes a methodology for undertaking socio-economic effects of a Proposed Development in the context of an EIA. Accordingly, the approach adopted for this assessment is based on professional experience and in consideration of the policy requirements set out within the NPPF, and the development plan framework.

15.3.2 The range of data sources used in the assessment include:

- Office for National Statistics;
- 2021 Census;
- Annual Population Survey;
- Indices of Multiple Deprivation;
- Business Register and Employment Survey; and
- Information provided by the Applicant.

#### **Study Area**

15.3.3 The spatial scales that are considered relevant and make up the study area for this assessment are presented in Table 15.1.

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<sup>115</sup> Leicestershire County Council (2023). *Strategic Plan 2024–2026*.

**Table 15.1: Study area for the socio-economic assessment**

Spatial scale	Title
Lower Super Output Area	Hinckley and Bosworth 001E
Ward	Ratby, Bagworth and Thornton
LPA	Hinckley and Bosworth Borough Council
Regional	East Midlands
National	England/Great Britain/United Kingdom*

\*Note: Dependant on availability of data

### Assessment of Significance

#### Criteria for Receptor Sensitivity

- 15.3.4 The initial stage of the assessment involves determining the sensitivity of the receptors. In socio-economic assessments, receptors do not typically respond to environmental changes in the same manner as physical or ecological receptors. To account for this, the assessment relies on a mix of quantifiable indicators and an evaluation of the receptor's significance within relevant policy contexts to determine sensitivity. For instance, local employment levels might rise as new developments are completed and occupied by businesses.
- 15.3.5 Table 15.2 outlines the proposed sensitivity criteria to be used through this assessment. Depending on the nature of the scheme, not all of these criteria may be applicable to a given development.

**Table 15.2: Receptor sensitivity criteria**

Sensitivity	Evidence for Sensitivity Assessment
High	<p>Evidence of direct and significant socio-economic challenges relating to receptor. Accorded a high priority in local, regional or national economic regeneration policy.</p> <p>Evidence of direct and significant socio-economic challenges including:</p> <ul style="list-style-type: none"> <li>• Areas of population increase/decrease well in excess of/below regional/national averages.</li> <li>• Areas of employment increase/decrease well in excess of/below regional/national averages.</li> <li>• Areas with levels of unemployment well in excess of/below regional/national averages and high levels of relative deprivation (i.e. top 10 %).</li> <li>• Areas with claimant count well in excess of/below regional/national averages.</li> <li>• Areas with economic activity rate well in excess of/below regional/national averages.</li> <li>• Areas with GVA increase/decrease well above/below regional/national averages.</li> <li>• Areas with a significant undersupply of housing against the housing target.</li> <li>• Deficit in terms of existing education provision.</li> <li>• Ratio of GP: patient considerably higher than national average and/or no</li> </ul>





Sensitivity	Evidence for Sensitivity Assessment
	<p>capacity to accept new patients.</p> <ul style="list-style-type: none"> <li>Considerable undersupply of open space and/or provision beyond 20 minutes walking distance.</li> </ul>
Medium	<p>Some evidence of socio-economic challenges linked to receptor, which may be indirect. Change relating to receptor has medium priority in local, regional and national economic and regeneration policy.</p> <p>Some evidence of socio-economic challenges, including:</p> <ul style="list-style-type: none"> <li>Areas of population increase/decrease in excess of/below regional/national averages.</li> <li>Areas with housing supply below target.</li> <li>Areas of employment increase/decrease in excess of/below regional/national averages.</li> <li>Areas with levels of unemployment above/below regional/national averages and levels of relative deprivation (i.e. top 50 %).</li> <li>Areas with claimants count well above/below regional/national averages.</li> <li>Areas with economic activity rate above/below regional/national averages.</li> <li>Areas with GVA increase/decrease above/below regional/national averages.</li> <li>Limited capacity in terms of existing education provision.</li> <li>Ratio of GP: patients higher than national average and/or no capacity to accept new patients.</li> <li>Undersupply of open space, but provision within 20-minute walking distance.</li> <li>Areas with a moderate oversupply/undersupply of housing against the housing target.</li> </ul>
Low	<p>Little evidence of socio-economic challenges relating to the receptor. Receptor is accorded to a low priority in local, regional and national economic and regeneration policy.</p> <p>Little evidence of socio-economic challenges, including:</p> <ul style="list-style-type: none"> <li>Areas of population increase/decrease in line with regional/national averages.</li> <li>Areas of employment increase/decrease in line with regional/national averages.</li> <li>Areas with levels of unemployment in line with regional/national averages and levels of relative deprivation (i.e. bottom 50 %).</li> <li>Areas with claimant count in line with regional/national averages.</li> <li>Areas with economic activity rate in line with regional/national averages.</li> <li>Areas with GVA increase/decrease in line with regional/national averages.</li> <li>Areas with levels of crime in line with regional/national averages.</li> <li>Healthcare facilities accepting new patients.</li> <li>Available capacity in existing education provision.</li> <li>Ratio of GP: patient similar to national average and accepting new patients.</li> <li>Availability of open space and provision within 20-minute walking distance.</li> <li>Areas with an oversupply of housing against the housing target.</li> </ul>



Sensitivity	Evidence for Sensitivity Assessment
Negligible	<p>No socio-economic issues relating to receptor. Receptor is not considered a priority in local, regional and national economic development and regeneration policy.</p> <p>No socio-economic issues relating to a receptor, including:</p> <ul style="list-style-type: none"> <li>• No or little change in population.</li> <li>• No change to employment levels.</li> <li>• Areas with levels of unemployment less than regional/national averages and low levels of relative deprivation (i.e. bottom 10 %).</li> <li>• Areas with claimant count higher than average regional/national averages.</li> <li>• Areas with economic activity rate higher than average regional/national averages.</li> <li>• Healthcare facilities accepting new patients.</li> <li>• Surplus capacity in existing education provision.</li> <li>• Ratio of GP: patient below national average and accepting new patients.</li> <li>• Considerable availability of open space within 20-minute walking distance.</li> <li>• Areas with a considerable oversupply of housing against the housing target.</li> </ul>

#### Criteria for Magnitude of Change

- 15.3.6 The magnitude of change for each receptor has been assessed by evaluating the anticipated variation from baseline conditions, taking into account both pre- and, where necessary, post-mitigation scenarios. The criteria used to assess the scale of change, whether positive (beneficial) or negative (adverse), are outlined in Table 15.3.

**Table 15.3: Magnitude of change criteria**

Magnitude of Change	Description/Criteria
Substantial	<p>Proposed Development is likely to result in a large change to existing socio-economic conditions in terms of absolute and/or percentage change.</p> <ul style="list-style-type: none"> <li>• Greater than 5 % increase/decrease on existing baseline levels of employment.</li> <li>• Greater than 5 % increase/decrease in GVA from baseline.</li> <li>• Greater than 5 % increase/decrease in Council Tax revenue.</li> <li>• Considerable increase/decrease in economy factors.</li> <li>• Greater than 10 % of minimum annual housing target.</li> <li>• Considerable increase/decrease in provision quality of open and recreational space generated.</li> <li>• Considerable increase in demand on social and community infrastructure with no capacity/decrease in demand on social and community infrastructure with ample surplus capacity.</li> </ul>



Magnitude of Change	Description/Criteria
Moderate	<p>Proposed Development is likely to result in a moderate change to existing socio-economic conditions in terms of absolute or percentage change.</p> <ul style="list-style-type: none"> <li>• 1 % – 5 % increase/decrease on existing baseline levels of employment.</li> <li>• 1 % – 5 % increase/decrease in GVA from baseline.</li> <li>• Greater than 5 % of minimum annual housing target.</li> <li>• 1 % – 5 % increase/decrease in Council Tax revenue.</li> <li>• Moderate increase/decrease in economy factors.</li> <li>• Moderate increase/decrease in provision/quality of open and recreational space generated.</li> <li>• Moderate increase/decrease in demand on social and community infrastructure with limited capacity.</li> </ul>
Minor	<p>Proposed Development is likely to result in a minor change to existing socio-economic conditions in terms of absolute and or percentage change.</p> <ul style="list-style-type: none"> <li>• Limited increase/decrease on existing baseline levels of 0.1 % – 0.99 % increase/decrease on existing baseline levels of employment.</li> <li>• 0.1 % – 0.99 % increase/decrease in GVA from baseline.</li> <li>• 1 % – 5 % of minimum annual housing target.</li> <li>• 0.1 % – 0.99 % increase/decrease in Council Tax revenue.</li> <li>• Limited increase/decrease in economy factors.</li> <li>• Limited increase/decrease in provision/quality of open and recreational space generated.</li> <li>• Limited increase/decrease in demand on social and community infrastructure with limited capacity.</li> </ul>
Negligible	No discernible change in baseline socio-economic conditions.

15.3.7 When presenting the significance of effects arising from the Proposed Development during both the construction and operational phases, the assessment considers the relationship between receptor sensitivity and the magnitude of change. This evaluation is guided by the significance matrix provided in Table 15.4.

**Table 15.4: Significance matrix**

Magnitude of Change	Sensitivity of Receptor				
		High	Medium	Low	Negligible
	Substantial	Major	Major	Moderate	Negligible
	Moderate	Major	Moderate	Minor to Moderate	Negligible
	Minor	Moderate	Minor to Moderate	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

15.3.8 According to this scale, effects classified as major or moderate are considered to be significant at the reported scale. Effects of minor or lower significance are identified but regarded as not significant.

15.3.9 Table 15.5 presents a summary of the scope of the assessment, including consideration of potential effects (technical scope, the receptors, and temporal scope (whether relevant to



construction phase or once completed and operational).

**Table 15.5: Summary of assessment scope**

Potential Effect	Relevant study area	Potential receptor(s)
<b>Construction</b>		
Employment opportunities	Local scale – Hinckley and Bosworth Borough Council	Local scale – Hinckley and Bosworth Borough Council
Economic contribution	Local scale – Hinckley and Bosworth Borough Council	Local scale – Hinckley and Bosworth Borough Council
Disturbance to neighbourhood amenity	Ratby, Bagworth and Thornton Ward	Existing residents
<b>Operation</b>		
Employment	Local scale – Hinckley and Bosworth Borough Council	Local scale – Hinckley and Bosworth Borough Council
Economic contribution	Local scale – Hinckley and Bosworth Borough Council	Local scale – Hinckley and Bosworth Borough Council

#### **Assumptions and Limitations**

- 15.3.10 Baseline information is derived from the latest available information and statistics, however, there is often a time-lag associated with the publication of this data. The assessment relies on available data and best endeavours have been made to ensure that the data is accurate.

## **15.4 Baseline Conditions**

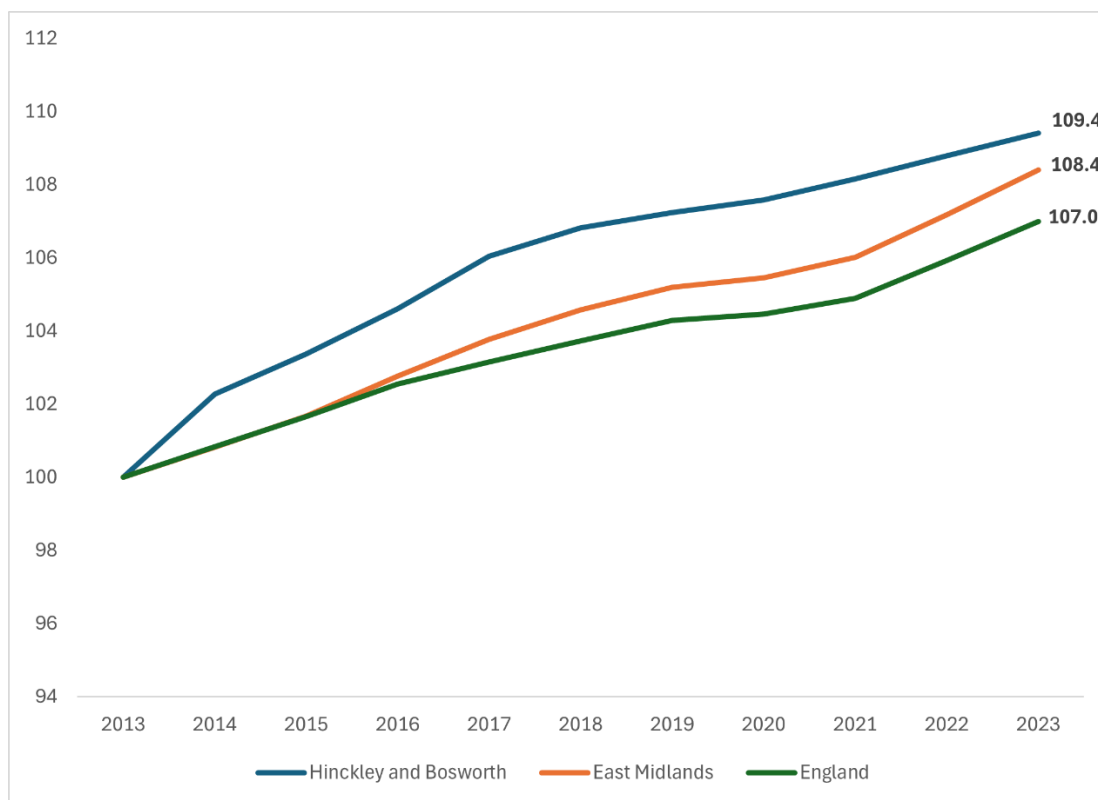
### **Site Description and Context**

- 15.4.1 The Site is located within the administrative area of Hinckley and Bosworth Borough Council. Nearby are the residential and commercial areas of Ibstock, Ellistown, Battram, Bagworth and Bardon Hill. It falls within the Hinckley and Bosworth 001E LSOA, which is part of the Ratby, Bagworth and Thornton Ward.
- 15.4.2 Figure 15.1 (Volume 2) shows the location of the Proposed Development overlaid on a map of the Index of Multiple Deprivation (IMD) 2019. The map shows levels of relative deprivation at the LSOA level, ranging from the most to least deprived areas, across the East Midlands region and England.
- 15.4.3 Where possible, data is provided at LSOA level. Data is also provided for the Hinckley and Bosworth Borough (LPA) level along with the wider East Midlands region and England/Great Britain.



### Population Estimates

15.4.4 Data published by the Office for National Statistics (ONS)<sup>116</sup> show that as of 2021 the population of Hinckley and Bosworth Borough is 113,600. The population of the Hinckley and Bosworth Borough increased by 8.1 % (8,522) between 2011 and 2021. This was higher than the growth seen in the East Midlands (7.7 % - 346,978) and England (6.6 % - 3,477,344). Graph 15.1 shows population change in each area from 2013 to 2023.



**Graph 15.1: Population Change, 2013-23**

15.4.5 The mid-year population estimates from the ONS<sup>117</sup> show the fastest growing age group in Hinckley and Bosworth Borough in relative terms between 2011 and 2021 were those aged 65 and over, having increased by 31.4 % (6,067). Those aged 65 and over were also the fastest growing age group in relative terms at a regional and national level, with growth of 23.1 % (178,852) in the East Midlands and 20.1 % (1,740,671) in England. Detailed breakdowns of change by age for each geography are shown in Table 15.6 to Table 15.8.

**Table 15.6: Population change by age in Hinckley and Bosworth Borough, 2011-21**

	2011	2021	Absolute Change	% Change
0-15	17,311	18,600	1,289	7.4

<sup>116</sup> Office for National Statistics (2024). Mid-Year Population Estimates: UK, England and Wales, Scotland and Northern Ireland – 2023. Published June 2024.

<sup>117</sup> Office for National Statistics (2023). *Mid-Year Population Estimates for the UK, England and Wales, Scotland and Northern Ireland: 2021*.



	2011	2021	Absolute Change	% Change
16-64	68,434	69,600	1,166	1.7
65+	19,333	25,400	6,067	31.4
Total	105,078	113,600	8,522	8.1

Source: ONS, Mid-year population estimates.

**Table 15.7: Population Change by Age in the East Midlands, 2011-21**

	2011	2021	Absolute Change	% Change
0-15	782,276	826,800	44,524	5.7
16-64	2,977,998	3,101,700	123,702	4.2
65+	772,948	951,800	178,852	23.1
Total	4,533,222	4,880,200	346,978	7.7

Source: ONS, Mid-year population estimates

**Table 15.8: Population Change by Age in England, 2011-21**

	2011	2021	Absolute Change	% Change
0-15	9,372,010	9,838,700	466,690	5.0
16-64	34,979,917	36,249,800	1,269,883	3.6
65+	8,660,529	10,401,200	1,740,671	20.0
Total	53,012,456	56,489,800	3,477,344	6.6

Source: ONS, Mid-year population estimates

### Population Projections

- 15.4.6 The 2022-based subnational projections from the ONS<sup>118</sup> show that the population of Hinckley and Bosworth Borough is expected to increase by 20 % (22,463) between 2018 to 2038 (see Table 15.9) This is higher than projected growth in the East Midlands (12 %) (see Table 15.10) and England (8.5 %) (Table 15.11). The population aged 65+ is expected to increase at the fastest rate in Hinckley and Bosworth Borough with growth of 43.8 %, which is also the case in the East Midlands (43.1 %) and in England (40.8 %).
- 15.4.7 Those aged 0-15 are expected to rise by 13.5 % in Hinckley and Bosworth Borough which is higher than the projected growth of 0.5 % in the East Midlands, whilst a 4.3 % decrease in this age group is projected in England. The working age population (those aged 16-64) is expected to rise by 13.3 % in Hinckley and Bosworth Borough from 2018-38, which compares to growth rates of 5.7 % in the East Midlands and 3.0 % in England.

<sup>118</sup> Office for National Statistics (2020). *Subnational Population Projections for England: 2018-based*. Published March 2020.

**Table 15.9: Population Projections in Hinckley and Bosworth Borough, 2018-38**

	2018	2038	Absolute Change	% Change
0-15	18,796	21,332	2,536	13.5
16-64	69,098	78,278	9,180	13.3
65+	24,529	35,276	10,747	43.8
Total	112,423	134,886	22,463	20.0

Source: ONS, Population Estimates

**Table 15.10: Population Projections in the East Midlands, 2018-38**

	2018	2038	Absolute Change	% Change
0-15	842,640	846,596	3,956	0.5
16-64	3,034,478	3,207,849	173,371	5.7
65+	927,031	1,326,827	399,796	43.1
Total	4,804,149	5,381,271	577,122	12.0

Source: ONS, Population Estimates

**Table 15.11: Population Projections in England, 2018-38**

	2018	2038	Absolute Change	% Change
0-15	10,144,712	9,709,113	435,599	4.3
16-64	35,653,213	36,727,207	1,073,994	3.0
65+	10,179,253	14,329,933	4,150,680	40.8
Total	55,977,178	60,766,253	4,789,075	8.5

Source: ONS, Population Estimates

- 15.4.8 Taken together these tables show a growing population within the employment age range for the Hinckley and Bosworth Borough and wider region and a growing demand for employment in the areas.

### General Health

- 15.4.9 Table 15.12 shows the health status of residents in the different geographies, based on data from the 2021 Census<sup>119</sup>. The proportion of residents reporting very good health is consistent across the three areas, with Hinckley and Bosworth Borough (46.6 %) and East Midlands (46.2 %) slightly lower than the national average (48.5 %). A smaller proportion of people in Hinckley and Bosworth Borough (3.7 %) reported living with bad health compared to the East Midlands (4.2 %) and England (4 %). The rate of very bad health in Hinckley and Bosworth Borough (1.0 %) is slightly lower than both regional and national averages (1.2 %).

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119 Office for National Statistics (2023). Census 2021: Health, England and Wales. Published January 2023



Table 15.12: General Health, 2021

	Hinckley and Bosworth Borough	East Midlands	England
Very good health	46.6 %	46.2 %	48.5 %
Good health	35.5 %	34.8 %	33.7 %
Fair health	13.1 %	13.6 %	12.7 %
Bad health	3.7 %	4.2 %	4.0 %
Very bad health	1.0 %	1.2 %	1.2 %

Source: 2021 Census

### Deprivation

15.4.10 The 2019 IMD<sup>120</sup> provides an indication of the average levels of deprivation for LSOAs across England. It provides an overall assessment of the average levels of deprivation as well as an assessment against domains of deprivation. In total, England has 32,844 LSOAs, with 1 being the most deprived and 32,844 being the least deprived.

15.4.11 The IMD combines information from seven weighted domains to produce an overall deprivation score for each LSOA. These domains include income; employment; education, skills and training; health and disability; crime; barriers to housing and services; and the living environment. Areas that rank as more deprived typically experience lower income levels, higher unemployment, poorer health outcomes, lower educational attainment, and limited access to housing, services, and quality local environments.

15.4.12 The Proposed Development falls into Hinckley and Bosworth 001E LSOA, within the Ratby, Bagworth and Thornton ward. The Hinckley and Bosworth 001E LSOA has an overall rank of 16,284 placing it in the top 50 % least deprived LSOAs. When looking at individual domains, Hinckley and Bosworth 001E LSOA has its highest rank in the barriers to housing and services domain of 1,082 which equates to the top 10 % most deprived areas. In contrast, its lowest rank is in the health and disability domain where it ranks in the top 20 % least deprived areas at 26,033.

15.4.13 The full list of individual domain rankings for Hinckley and Bosworth 001E are set out in Table 15.13. The lower the number is, the more deprived the area is compared to other LSOAs nationally.

Table 15.13: Hinckley and Bosworth 001E IMD 2019 domain ranking

IMD Domain	Hinckley and Bosworth 001E IMD 2019 Domain Rank (out of 32,844, 1 being the most deprived)	Decile/Deprivation status
Overall IMD	16,284	Top 50 % (least)

<sup>120</sup> Ministry of Housing, Communities and Local Government (2019). *English Indices of Deprivation 2019*. Published September 2019.





IMD Domain	Hinckley and Bosworth 001E IMD 2019 Domain Rank (out of 32,844, 1 being the most deprived)	Decile/Deprivation status
Income	18,432	Top 40 % (least)
Employment	19,726	Top 40 % (least)
Education	17,389	Top 50 % (least)
Health and Disability	26,033	Top 20 % (least)
Crime	11,733	Top 40 % (most)
Barriers to housing and services	1,082	Top 10 % (most)
Living Environment	21,560	Top 30 % (least)

Source: Ministry of Housing, Communities and Local Government

15.4.14 Table 15.14 shows the household by deprivation categories for all three geographies<sup>121</sup>. Hinckley and Bosworth Borough has a higher proportion of households not deprived in any dimension (51.4 %) compared to the East Midlands (48.1 %) and England (48.4 %). The proportion of households deprived in one dimension is similar across all three areas, with Hinckley and Bosworth Borough at 33.7 %, closely matching the East Midlands (33.5 %) and national figures (33.5 %). Fewer households in Hinckley and Bosworth Borough are deprived in two or more dimensions when compared with regional and national levels. Notably, only 2.4 % of households in Hinckley and Bosworth Borough are deprived in three dimensions, lower than the East Midlands (3.5 %) and England (3.7 %).

**Table 15.14: Households by deprivation dimension, 2021**

	Hinckley and Bosworth	East Midlands	England
Household is not deprived in any dimension	51.4 %	48.1 %	48.4 %
Household is deprived in one dimension	33.7 %	33.5 %	33.5 %
Household is deprived in two dimensions	12.4 %	14.3 %	14.2 %
Household is deprived three dimensions	2.4 %	3.5 %	3.7 %
Household is deprived in four dimensions	0.1 %	0.2 %	0.2 %

Source: 2021 Census

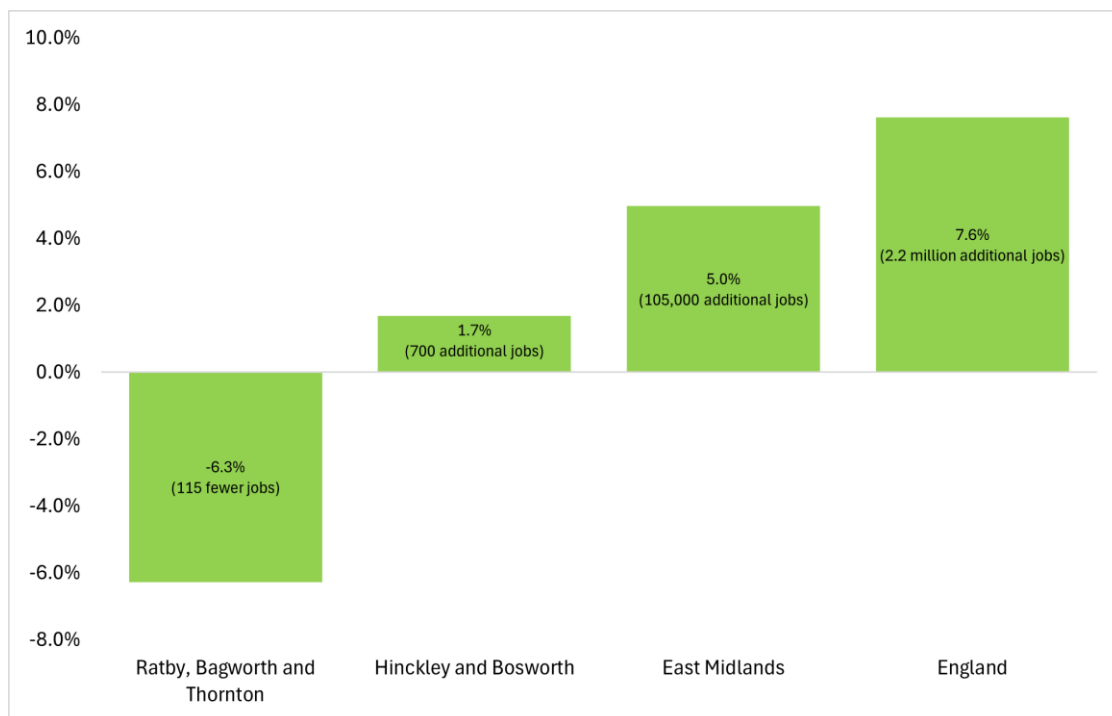
### Employment

15.4.15 Graph 15.2 shows employment change in four areas between 2016 and 2023: Ratby, Bagworth and Thornton, Hinckley and Bosworth, the East Midlands and England. Ratby, Bagworth and Thornton saw jobs fall by 6.3 % (115 fewer jobs) over this timeframe. Hinckley and Bosworth saw jobs rise by 1.7 % (700 additional jobs) between 2016 and 2023. This was lower than the increases seen in the East Midlands (5.6 %) (105,000 additional jobs) and

<sup>121</sup> Office for National Statistics (2023). *Census 2021: Deprivation Dimensions, England and Wales*. Published January 2023.



England (7.6 %) (2.2 million additional jobs).



**Graph 15.2: Employment Change, 2016-23**

**Source:** ONS, Business Register and Employment Survey

### Employment by sector

15.4.16 Based on ONS data<sup>122</sup>, manufacturing was the largest employment sector in Ratby, Bagworth and Thornton in 2023, accounting for 34.9 % of all employment - above the averages for Hinckley and Bosworth Borough (18.5 %), the East Midlands (12.8 %), and England (7.6 %). The health sector was the second largest employer in the area, representing 20.3 % of total employment, exceeding averages across the wider geographies. This was followed by professional, scientific, and technical services at 7.3 %, closely aligned with borough and regional levels.

In contrast, sectors such as retail and transport and storage each accounted for smaller shares of total employment locally. Full sectoral breakdowns are provided in

<sup>122</sup> Office for National Statistics (2024). Business Register and Employment Survey (BRES), 2023 Provisional Results. Published October 2024.



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15.4.17 Table 15.15.



Table 15.15: Employment by sector, 2023

	Ratby, Bagworth and Thornton	Hinckley and Bosworth Borough	East Midlands	England
Agriculture, Forestry and Fishing	0 %	0.7 %	0.7 %	0.5 %
Mining, Quarrying and Utilities	0 %	2.1 %	1.5 %	1.1 %
Manufacturing	34.9 %	18.5 %	12.8 %	7.6 %
Construction	10.2 %	4.6 %	4.4 %	4.9 %
Motor Trades	2.0 %	4.0 %	2.4 %	1.8 %
Wholesale	1.5 %	6.6 %	5.1 %	3.9 %
Retail	4.4 %	6.6 %	8.3 %	8.4 %
Transport and Storage (inc. Postal)	1.5 %	4.0 %	7.3 %	5.2 %
Accommodation and Food Services	5.8 %	7.9 %	7.3 %	8.1 %
Information and Communication	0.9 %	2.6 %	2.8 %	4.9 %
Finance and Insurance	0.3 %	1.2 %	1.4 %	3.5 %
Property	0.9 %	1.6 %	1.8 %	3.5 %
Professional, Scientific and Technical	7.3 %	9.2 %	7.7 %	9.9 %
Business Administration and Support Services	2.9 %	6.6 %	7.9 %	9.1 %
Education	4.4 %	9.2 %	9.4 %	8.8 %
Health	20.3 %	10.6 %	15.2 %	13.9 %
Arts, entertainment, recreation and other services	2.9 %	4.0 %	4.0 %	4.7 %

Source: ONS, Business Register and Employment Survey

### Job Count by Region

15.4.18 Based on ONS data<sup>123</sup>, construction accounts for 1,750 jobs in Hinckley and Bosworth in 2023, equivalent to 4.2 % of all employment. This proportion is broadly in line with the East Midlands average (4.3 %) and slightly below the national average (4.8 %). While not among the largest sectors locally, construction remains an important source of employment, contributing more jobs than sectors such as finance, real estate, and public administration.

<sup>123</sup> Office for National Statistics (2024). Business Register and Employment Survey (BRES), 2023 Provisional Results. Published October 2024.



Table 15.16: Job count by region

Industry	Hinckley and Bosworth (Employee Jobs)	Hinckley and Bosworth (%)	East Midlands (%)	Great Britain (%)
Total Employee Jobs	42,000	-	-	-
Full-Time	30,000	71.4	67.9	68.8
Part-Time	12,000	28.6	32.1	31.2
Mining and Quarrying	100	0.2	0.2	0.1
Manufacturing	7,000	16.7	12.4	7.5
Electricity, Gas, Steam and Air Conditioning Supply	300	0.7	0.5	0.4
Water Supply; Sewerage, Waste Management and Remediation Activities	400	1	0.7	0.7
Construction	1,750	4.2	4.3	4.8
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	6,000	14.3	15.3	13.7
Transportation and Storage	5,000	11.9	7.1	5
Accommodation and Food Service Activities	3,000	7.1	7	8
Information and Communication	1,000	2.4	2.7	4.6
Financial and Insurance Activities	450	1.1	1.4	3.4
Real Estate Activities	600	1.4	1.7	1.9
Professional, Scientific and Technical Activities	3,500	8.3	7.4	9.3
Administrative and Support Service Activities	2,500	6	7.6	8.7
Public Administration and Defence; Compulsory Social Security	600	1.4	4.1	4.7
Education	3,500	8.3	9	8.6
Human Health and Social Work Activities	4,000	9.5	14.6	13.9
Arts, Entertainment and Recreation	1,000	2.4	2.5	2.6
Other Service Activities	450	1.1	1.3	1.9

Source: ONS, UK Business Count

**Business count**

15.4.19 According to ONS data<sup>124</sup>, approximately 4,440 registered businesses were operating in

<sup>124</sup> Office for National Statistics (2024). UK Business: Activity, Size and Location – Business Counts, 2024. Published September 2024.



Hinckley and Bosworth Borough as of 2024. Table 15.17 shows the change in the number of businesses between 2017 and 2024 across Hinckley and Bosworth Borough, the East Midlands, and England. The borough experienced a net reduction of 155 businesses over the period, equating to a 3.4 % decline. In contrast, business numbers in the East Midlands increased by 2.6 %, while growth across England stood at 1.8 %. At a more localised level, the Hinckley and Bosworth 001E recorded a smaller reduction of in business numbers (2.5 %), suggesting a degree of resilience compared to the wider borough trend.

**Table 15.17: Change in business numbers, 2017-24**

	2017	2024	Absolute Change	% Change
Hinckley and Bosworth 001E	395	385	-10	2.5
Hinckley and Bosworth Borough	4,595	4,440	-155	3.4
East Midlands	177,385	182,035	4,650	2.6
England	2,598,095	2,645,840	47,745	1.8

Source: ONS, UK Business Count

## Wages

15.4.20 Table 15.18 presents the median resident-based and workplace-based wages for 2024 in Hinckley and Bosworth Borough, the East Midlands, and Great Britain, using data from the ONS<sup>125</sup>. In both categories, wages in Hinckley and Bosworth Borough are higher than the East Midlands average, but lower than the national average for Great Britain.

**Table 15.18: Workplace-based and resident-based wages, 2024**

	Median resident-based salary	Median workplace-based salary
Hinckley and Bosworth Borough	£29,904	£28,402
East Midlands	£29,851	£28,153
Great Britain	£31,717	£31,717

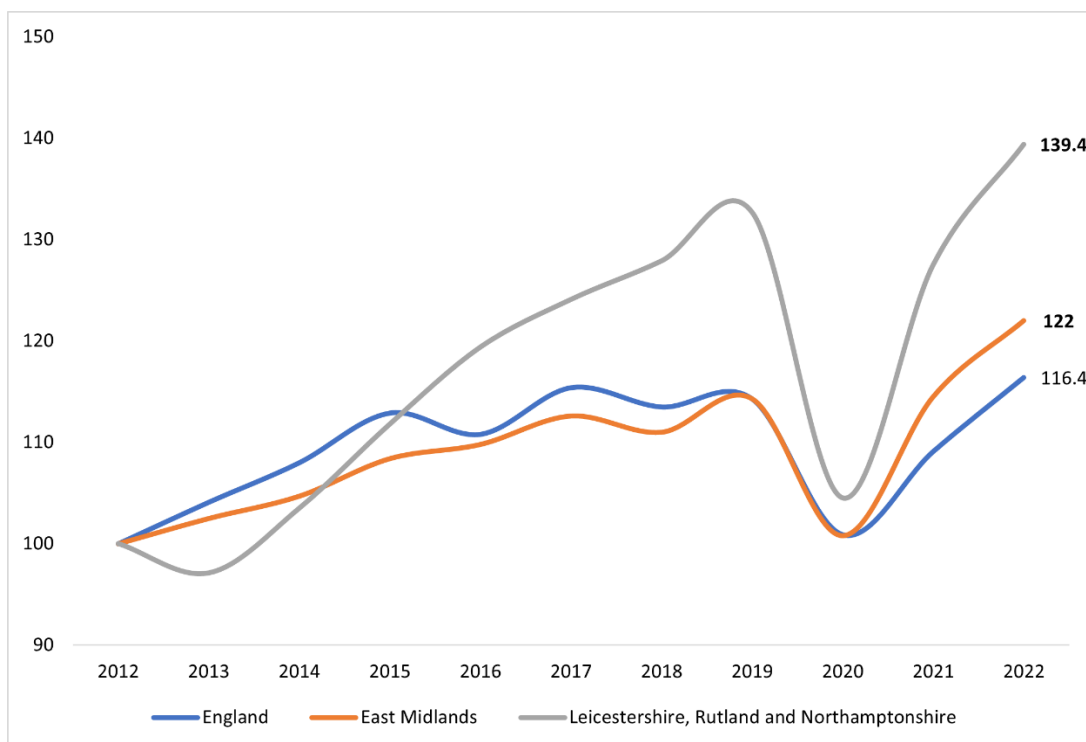
Source: ONS Annual Population Survey

## Construction Sector

15.4.21 Graph 15.3 shows construction Gross Value Added (GVA – a proxy for economic output) for Leicestershire, Rutland and Northamptonshire, the East Midlands, and the UK from 2012 and 2022, based on ONS data<sup>126</sup>. Over this timeframe, GVA construction in current prices increased by 107.5 % in Leicestershire, Rutland and Northamptonshire, higher compared to East Midlands (78.9 %) and the UK (69.1 %). In Leicestershire, Rutland and Northamptonshire construction GVA was £4.2 billion in 2022.

125 Office for National Statistics (2024). Annual Population Survey – Earnings by Place of Residence and Workplace, 2024.

126 Office for National Statistics (2023). Regional Gross Value Added (Balanced) by Industry: All NUTS Level Regions, 1998–2022. Published December 2023.



**Graph 15.3: Construction Gross Value Added at Current Prices, 2012-2022 (2012 = 100)**

15.4.22 According to data from the 2021 Census<sup>127</sup>, 28.9 % of residents aged 16 and over in Ratby, Bagworth and Thornton hold a Level 4 qualification or above (equivalent to degree level or higher). This is below the figure for Hinckley and Bosworth Borough (29.4 %) and the East Midlands (29.1 %) and remains below the national figure for England at 33.9 %.

15.4.23 The distribution of other qualification levels across the study area is broadly in line with regional and national averages. Notably, Ratby, Bagworth and Thornton has a slightly higher proportion of residents with Level 3 qualifications (19.0 %) than any of the comparator geographies. The proportion of residents with no qualifications is lowest in Ratby, Bagworth and Thornton (17.5 %) and highest in the East Midlands (19.5 %). These figures are shown in Table 15.19.

**Table 15.19: Highest level of qualification amongst all residents aged 16 and over**

	Ratby, Bagworth and Thornton	Hinckley and Bosworth Borough	East Midlands	England
Level 4 qualification or above	28.9 %	29.4 %	29.1 %	33.9 %
Level 3 qualifications	19.0 %	18.0 %	18.3 %	16.9 %
Apprenticeship	6.7 %	6.6 %	6.0 %	5.3 %
Level 2 qualification	15.4 %	14.5 %	13.9 %	13.3 %

<sup>127</sup> Office for National Statistics (2023). *Census 2021: Qualifications by Age, England and Wales*. Published January 2023.



	Ratby, Bagworth and Thornton	Hinckley and Bosworth Borough	East Midlands	England
Level 1 and entry level qualifications	10.2 %	10.7 %	10.4 %	9.7 %
Other qualifications	2.3 %	2.5 %	2.8 %	2.8 %
No qualifications	17.5 %	18.3 %	19.5 %	18.1 %

Source: ONS, 2021 Census

15.4.24 These figures indicate a need at the local level for jobs which can provide opportunities for a range of skills and qualifications.

### Commuting

15.4.25 Based on data from the 2021 Census<sup>128</sup>, in Leicestershire there are 150,878 people who live and work in the area. A further 11,898 people commute into Leicestershire for work but live elsewhere, while 52,646 people live in Leicestershire but travel to work outside the area. The most common destination for both in-commuters and out-commuters is the city of Leicester, which is geographically located within Leicestershire but reported separately in the commuting dataset. Additional key commuting links include Warwickshire (7,018 commuters) and Nottinghamshire (3,014 commuters). Taking into account both in-commuting and out-commuting, Leicestershire has a net outflow of 40,748 commuters.

15.4.26 These figures suggest an opportunity for employment to attract retention within the local level for a range of skills and qualifications.

### Unemployment and Economic Activity

15.4.27 According to data from the 2021 Census<sup>129</sup>, claimant count records the number of people claiming Jobseeker's Allowance or Universal Credit who are required to seek work and be available for work. In August 2024, the claimant rate was 1.5 % in Hinckley and Bosworth Borough, 2.3 % in Leicestershire, and 2.4 % in the East Midlands. These figures reflect the proportion of working-age residents (aged 16–64) claiming out-of-work benefits across each area and provide a snapshot of local and regional labour market conditions.

**Table 15.20: Employment rate for working-age (16-64) residents**

	Hinckley and Bosworth Borough	East Midlands	Great Britain
Economically active	85 %	79.5 %	78.4 %
Employees	70 %	67.4 %	66.0 %
Self employed	12 %	8.6 %	9.2 %

<sup>128</sup> Office for National Statistics (2023). *Census 2021: Commuting Patterns in England and Wales*. Published July 2023.

<sup>129</sup> Office for National Statistics (2023). *Census 2021: Labour Market and Economic Activity, England and Wales*. Published January 2023.





	Hinckley and Bosworth Borough	East Midlands	Great Britain
Unemployed	2.5 %	4.1 %	3.7 %

Source: ONS 2021, Census

- 15.4.28 The most common reason for economic inactivity in Hinckley and Bosworth Borough is long-term sickness or disability, accounting for 29.3 % of all economically inactive residents as of the 2021 Census<sup>130</sup>. This has increased notably compared to previous years. By contrast, 23.2 % are inactive due to retirement and 19.8 % due to looking after home or family. These proportions are broadly in line with regional averages across the East Midlands but slightly below the national average for long-term sickness.

## 15.5 Assessment of Effects

### Construction Phase

#### Employment

- 15.5.1 The Proposed Development will deliver economic benefits through the creation of temporary employment during the construction period, which is expected to last approximately 12 months. The overall construction cost is projected to be approximately £67.5 million (at current prices).
- 15.5.2 To estimate the level of construction employment supported throughout the build programme, the total construction expenditure has been divided by the average turnover per construction worker in the East Midlands, which stood at £85,000 in 2024. Based on this approach, the Proposed Development is expected to generate the equivalent of 500 temporary jobs during construction, 150 to 200 of which are expected to be on site and the remainder of which will be within the wider construction supply chain including materials, logistics, and support services - supporting up to 500 roles.
- 15.5.3 Construction activity also stimulates demand across other industries, for example, the supply of materials and equipment during development, and the provision of furnishings, fittings, and other goods upon completion. This broader impact, referred to as the 'multiplier effect', leads to indirect employment opportunities. According to research from the former Homes and Communities Agency (now Homes England)<sup>131</sup>, the employment multiplier for construction in the UK is 2.7, indicating that for every job created in construction, a further 1.7 roles are supported elsewhere in the economy. Based on this, in addition to the 150 to 200 direct on site jobs, the Proposed Development could facilitate approximately 255 to 340 further indirect roles during the build period.
- 15.5.4 In total, the Proposed Development could support approximately 375 to 540 temporary construction-related jobs annually throughout the construction timeframe.
- 15.5.5 The sensitivity of employment within the construction and related sectors is assessed as medium, in accordance with the criteria defined in Table 15.2. This reflects job growth trends

<sup>130</sup> Office for National Statistics (2023). *Census 2021: Economic activity status, England and Wales*. Published 8 March 2023.

<sup>131</sup> Homes and Communities Agency (2014). *Additionality Guide: Fourth Edition*. Published by Homes and Communities Agency (now Homes England).



in West Leicestershire, which have outperformed both regional and national averages, alongside the construction sector's employment share being broadly in line with that of the wider East Midlands and England.

- 15.5.6 Based on the forecast creation of approximately 150 to 200 temporary on site construction jobs in the construction of the Proposed Development, the magnitude of change is judged to be medium, following the benchmarks outlined in Table 15.3. This would represent up to an 11.4 % increase in baseline construction employment in Hinckley and Bosworth, where there are currently 1,750 construction jobs.
- 15.5.7 The overall effect of construction-phase employment is temporary therefore assessed as moderate beneficial effect at the LPA scale, which constitutes a significant effect under the EIA regulations.

#### Economic Contribution

- 15.5.8 Another way of looking at the economic impact of a construction phase is to calculate the contribution a development makes to wealth creation, as measured by the increase in the value of goods and services generated within an area. This can be done by looking at the increase in GVA. Using ONS data, it is possible to calculate GVA per employee by sector at a regional level. In the East Midlands, construction GVA per employee is around £85,000 per annum. Total annual GVA per employee for all sectors in the region is estimated at £60,725 per annum.
- 15.5.9 Applying these GVA figures to the employment estimates outlined above, the Proposed Development could generate £45.5 million during the 12 month construction period (current prices). This is comprised of £25.7 million of GVA associated with the on site construction jobs and £29.8 million of GVA associated with supply chain impacts.
- 15.5.10 The sensitivity of the receptor (economic output from the construction sector in Leicestershire, Rutland and Northamptonshire) is assessed as being high, in line with criteria set out in Table 15.2. Economic output from the construction sector (GVA) increased by 107.5 % between 2012 and 2022. This was well above the increase seen at a regional level and national level.
- 15.5.11 The magnitude of change is medium, in line with criteria set out in Table 15.3. This is based on the generation of £45.5 million in construction economic output per annum, which would translate to an annual increase in construction GVA in Leicestershire<sup>132</sup> of 3.0 % over the 12-month timeframe.
- 15.5.12 The significance of the temporary effect of employment during the construction phase is major beneficial at the LPA scale which is significant in EIA terms.

#### Disturbance to Neighbourhood Amenity

- 15.5.13 The sensitivity of the receptors of the Proposed Development is medium, in line with criteria set out in Table 15.2, given that:
- the LPA saw jobs lower than the regional and national rate between 2016 and 2023 (1.7 %);

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<sup>132</sup> Office for National Statistics (2023). Regional gross value added (balanced) by industry: local authorities by ITL1 region.



- the claimant count at the LPA level has decreased in line with regional and national averages since the peak of Covid-19 pandemic; and
- the LSOAs in which the scheme is located (Hinckley and Bosworth 001E) fall within the top 50 % most deprived LSOA in the country. When looking at individual domains of deprivation, Hinckley and Bosworth 001E have their highest rankings in the education, skills and training domain of 11,212 and 3,668 respectively, which equates to the top 40 % most deprived LSOAs for each domain.

15.5.14 The assessment of the potential impacts on health and wellbeing is informed by other assessments undertaken and presented in this ES, including visual, transport, air quality, and noise and vibration. The residual effects identified from the construction phase are used as the basis of this assessment. A summary of the key residual effects are as follows:

- Visual effects: The short-term, localised enabling and construction works are not expected to result in significant impacts on landscape character areas or townscape features, including topography, vegetation, and PRoW.
- Air quality effects: With mitigation in place as outlined in the air quality assessment, construction dust and emissions are predicted to be well controlled and are assessed as not significant in EIA terms.
- Noise effects: During construction, some temporary adverse noise impacts may occur during specific activities. These are considered short-term and not significant following the implementation of appropriate mitigation measures through the CEMP.
- Traffic and Transport effects: Construction-related vehicle movements are expected to increase temporarily, but these impacts will be mitigated through a CTMP. No significant adverse effects on access or safety for local communities are anticipated.

15.5.15 Best practice construction measures will be implemented by way of a Detailed CEMP to minimise effects as far as possible. As such, accounting for all potential synergistic health and wellbeing effects during the construction phase, the magnitude of change within this socio-economic assessment is low, in line with criteria set out in Table 15.3.

15.5.16 The potential temporary construction effect on health and wellbeing is minor adverse which is not significant in EIA terms.

### **Operational Phase**

#### Employment

15.5.17 Job numbers are presented in two categories:

- gross permanent jobs: The total number of jobs accommodated directly within the Proposed Development; and
- net additional jobs: The estimated number of jobs that would be created within West Leicestershire that are truly additional, over and above what would have occurred without the development. This accounts for key adjustment factors, including leakage, deadweight, displacement, and multipliers, based on the 2014



*Additionality Guide*<sup>133</sup> (see Appendix 15.1; Volume 3) for explanation of these terms) published by the Homes and Communities Agency (HCA - now Homes England).

- 15.5.18 The Proposed Development includes up to 48,050 m<sup>2</sup> of gross floor area (GFA), comprising a warehouse building, ancillary offices, QC and forklift buildings, gatehouses, and a vehicle maintenance unit. These uses fall within Use Classes B8 of the Use Classes Order 1987 (as amended).
- 15.5.19 To estimate potential job creation, employment density assumptions have been applied to the proposed floorspace types. These assumptions are drawn from the *Employment Densities Guide* (3rd Edition, November 2015)<sup>134</sup>, published by Bilfinger GVA on behalf of the HCA. For storage and distribution uses (B8), it is assumed that one full-time equivalent (FTE) job is generated per 90 m<sup>3</sup> of gross floorspace GFA.
- 15.5.20 By applying the above employment density ratios to the planned floorspace, it is estimated that the Proposed Development will support approximately 534 gross FTE jobs on site once fully built and operational.
- 15.5.21 After accounting for additionality factors such as deadweight, leakage, displacement, and multipliers, as detailed in Table 15.21, the Proposed Development is projected to result in approximately 413 net additional FTE jobs within West Leicestershire and the wider regional economy once fully built and operational. This figure reflects current expected occupancy and site operation but will increase over time in line with the occupier's business growth projections.

**Table 15.21: Impact of additionality factors on jobs**

Additionality Factor	Storage and Distribution (B8)
Gross permanent direct jobs created	534
Estimated leakage	107
Estimated jobs displacement	107
Net jobs before multipliers	320
Multiplier impacts	93
Total net FTEs in West Leicestershire	413

- 15.5.22 The sensitivity of the receptor (employment in operational sectors) is classified as medium, in accordance with the criteria set out in Table 15.2. This reflects the fact that total employment in the LPA area increased by 1.7 % between 2016 and 2023, outperforming both regional and national growth rates. In addition, from August 2021 to August 2024, the local claimant count remained consistently lower than in regional comparison areas.
- 15.5.23 The magnitude of change is assessed as medium, following the criteria in Table 15.3. This judgement is based on the expected creation of 534 gross FTE jobs annually, which represents an uplift of approximately 1.3 % when compared to the total number of employee jobs in

<sup>133</sup> Homes and Communities Agency (now Homes England) (2014). *Additionality Guide: Fourth Edition*.

<sup>134</sup> Homes and Communities Agency (2015). *Employment Densities Guide: 3rd Edition*. Prepared by Bilfinger GVA. Published November 2015.



Hinckley and Bosworth (42,000 jobs), and 0.1 % of total jobs across the East Midlands (approx. 3.9 million jobs). This scale of employment growth at the local level is notable in the context of the district.

- 15.5.24 Overall, the operational employment impact of the Proposed Development is assessed as moderate beneficial at the LPA scale, which is significant.

#### Economic Contribution

- 15.5.25 The contribution of the Proposed Development to economic output has been calculated by taking the job creation associated with the Proposed Development estimated above and multiplying by an estimate of average level of GVA per employee in the West Midlands for the relevant industries.
- 15.5.26 It is estimated that once operational and fully occupied, the GVA generated by the on site jobs are estimated to be approximately £32.5 million per annum. Over a longer period of ten years, the GVA generated by the Proposed Development could be in the region of £325 million (present value).
- 15.5.27 The sensitivity of the receptor (economic output from the construction sector in West Leicestershire) is assessed as being medium, in line with criteria set out in Table 15.2. According to ONS data<sup>135136</sup>, economic output in Leicestershire County Council and Rutland increased by 47.8 % between 2012 and 2022. This was slightly above the increases seen at a regional (45.3 %) and national level (42.5 %).
- 15.5.28 The magnitude of change is medium, in line with criteria set out in Table 15.3, given the generation of approximately £25.1 million in economic output per annum would increase GVA in Hinckley and Bosworth Borough by 1.22 % per annum.
- 15.5.29 The significance of the GVA effect of the operational phase is moderate beneficial at the LPA scale which is significant in EIA terms.

## 15.6 Mitigation, Enhancement and Residual Effects

- 15.6.1 This section refers to the types of mitigation used as part of the Proposed Development, as defined in Chapter 2 Assessment Methodology, and how they apply to the assessment of air quality.
- 15.6.2 The Applicant has sought to identify and incorporate suitable measures and mitigation for potentially significant adverse effects, as well as maximising beneficial effects where possible. This has been achieved through an iterative process including consultation and engagement with consultees and through the EIA process.
- 15.6.3 Some primary and tertiary measures are embedded in the design of the Proposed Development, including the location and size of infrastructure, as defined in the Work Plans. Other measures are either secondary, termed tertiary, such as control and management plans, or measures integrated into legal requirements *via* environmental permits and consents.

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<sup>135</sup> Office for National Statistics (2023). GDP output approach – low-level aggregates: CVM SA by industry. Published December 2023.

<sup>136</sup> Office for National Statistics (2023). *Regional gross value added (balanced) by industry: all NUTS levels regions, 1998 to 2022*. Published December 2023.



- 15.6.4 The following sets out the embedded measures (primary), legal requirements (tertiary) and additional measures (secondary) relevant to the assessment of socio-economics.

### Construction

#### Primary (Embedded) and Tertiary Measures

- 15.6.5 Table 15.22 sets out the primary and tertiary (embedded) mitigation measures that will be adopted during construction and operation of the Proposed Development. A full list of recommended construction dust risk mitigation measures is set out in Appendix 8.13 (Volume 3). These will be developed as part of the Detailed CEMP, which will be secured *via* planning condition.

**Table 15.22: Primary and tertiary mitigation measures adopted as part of the Proposed Development**

Mitigation measure	Type	Applied to	Justification
Dust risk mitigation measures	Secured <i>via</i> condition	Construction phase	In line with IAQM (2024) guidance, in order to assure the impacts of the construction phase will be 'not significant'
CEMP	Secured <i>via</i> condition	Construction phase	To secure air pollution reduction/prevention mitigation

#### *Secondary (Additional) Mitigation*

- 15.6.6 No secondary mitigation is deemed to be required in relation to socioeconomic.

#### Enhancements

- 15.6.7 As no adverse significant effects have been identified, no enhancements are required for the Proposed Development.

#### Residual Effects

- 15.6.8 Following implementation of the Detailed CEMP and other embedded mitigation measures, residual adverse socio-economic effects during the construction phase are assessed as negligible and not significant. Positive effects relating to temporary employment and economic output are expected to remain beneficial and significant at the local authority level.

### Operation

#### Primary (Embedded) and Tertiary Measures

- 15.6.9 It is concluded that the proposed mitigation measures will ensure that the Proposed Development during the operational phase will have only positive and beneficial impacts, with no significant adverse long term effects on the socio-economic environment predicted.

#### *Secondary (Additional) Mitigation*

- 15.6.10 No secondary mitigation is deemed to be required in relation to socioeconomic.

#### Enhancements

- 15.6.11 No socio-economic enhancements are proposed, as no significant adverse socio-economic



effects have been identified. Chapter 6: Traffic and Transport identifies a significant operational effect on severance and fear and intimidation. While not considered significant in socio-economic terms, it may affect perceptions of connectivity for some residents. Embedded mitigation, including new pedestrian infrastructure and a Framework Travel Plan, is expected to reduce this impact and support local access.

#### Residual

- 15.6.12 During the operational phase, residual socio-economic effects are expected to be beneficial, with no significant adverse impacts identified. This reflects the creation of permanent employment and economic output, while any potential adverse impacts on the local community are considered negligible.

## 15.7 Cumulative and In-Combination effects

### **Cumulative Development**

- 15.7.1 The assessment of cumulative effects has considered the potential for significant effects to arise from the in-combination effects of related development including the Aldi National Distribution Centre (21/00531/HYB) which is under construction on land off B585 Wood Road, to the south west of the Site.
- 15.7.2 The assumptions used in the cumulative assessment are informed by publicly available information on Hinkley and Bosworth Borough Council and Northwest Leicestershire Council's planning webpages.
- 15.7.3 Table 15.23 gives details on the cumulative schemes including the site name, number of dwellings, employment floorspace, any other facilities that are provided and whether they have been included in the analysis. Where socio-economic information is not provided in an application, it has been excluded from the cumulative analysis. Given the lack of information on the construction phase of schemes, only operational impacts have been considered by the cumulative assessment.



Table 15.23: Cumulative schemes

Application Reference	Site	No. of dwellings	Employment/Commercial floorspace	Other facilities provided	Included in cumulative assessment
21/00531/HYB	Wood Farm Stanton Lane Ellistown	-	B2 and B8 units (89,200 m <sup>2</sup> )	-	Yes
24/01653/OUTM (pending determination)	Land East of Midland Road, Ellistone	-	B2 and B8 units (29,160 m <sup>2</sup> )	Ancillary offices	Yes
25/00279/FULM (pending determination)	Regs Way, Bardon Hill	-	Storage and distribution warehouse (B8)	Ancillary office and parking	-
24/01618/OUTM (pending determination)	Land West of Midland Road, Ellistown	75	-	-	-
24/01649/REMM 24/01650/REMM 24/01648/REMM 24/00427/REMM  (various stages; some approved, others pending)	Beveridge Lane, Ellistown	-	-	-	-
22/01048/FUL	Land Adjacent Barlestone Garage	58	-	-	-
24/01061/OUT	Land North of Barlestone Road	240	-	-	-





### Employment

- 15.7.4 Within the cumulative schemes, employment land is also included in the proposals. Due to a lack of available information, it is only possible to calculate the jobs created by the cumulative scheme 21/00531/HYB – Wood Farm, Stanton Lane, Ellistown and 24/01653/OUTM - Land East of Midland Road, Ellistone. This scheme will deliver 89,200 m<sup>2</sup> and 29,160 m<sup>2</sup> of employment land, respectively.
- 15.7.5 Assuming a plot ratio of 50:50 between the two land uses, an employment density of 1 job per 36 m<sup>2</sup> net internal area (NIA) has been used for the B2 floorspace. For the B8 use, a job density of 1 job per 90 m<sup>2</sup> GFA per job has been applied. These job densities result in an estimated 1,735 (21/00531/HYB) and 567 (24/01653/OUTM) gross full-time equivalent jobs being supported by the scheme. This means that including jobs supported by the Proposed Development, gross FTEs from a cumulative perspective total 2,143.
- 15.7.6 In considering the sensitivity of the receptor, a medium level of sensitivity is appropriate. The magnitude of the effect is medium.
- 15.7.7 The significance of the permanent effect on the economy in the operational phase from a cumulative perspective is moderate beneficial at the LPA scale which is significant in EIA terms.

### Economic Contribution

- 15.7.8 Additional household expenditure will be supported by the dwellings associated with the cumulative schemes. While not all of this spend will be in the local area, it is reasonable to assume that a substantial proportion will be retained within Hinckley and Bosworth Borough.
- 15.7.9 Figures produced by the ONS at a regional level can be used to provide an estimate of what this spend could be worth on an annual basis. For the East Midlands, household spend is estimated by the ONS to be around £524.60 per week. These covers spend on commodities/services such as food and drink, clothing, transport, and recreation. Applying the £524.60 average weekly spend figure to the 373 cumulative dwellings and translating this into an annual figure, the Proposed Development and cumulative sites could generate annual household expenditure of approximately £10.2 million once they are built and occupied.
- 15.7.10 Assuming the new dwellings fall within Band D, once fully occupied they are estimated to generate around £849,542 in additional Council Tax on an annual basis.
- 15.7.11 In terms of contribution to gross value added, it is estimated that the 907 gross on site jobs associated with the cumulative schemes (including the Proposed Development) will generate around £55.1 million of GVA per annum.
- 15.7.12 A high level of sensitivity is appropriate for the sensitivity of the receptor and the magnitude of effect is high, given the additional household spend supported by the new dwellings, Council Tax revenue generated and contribution to GVA.
- 15.7.13 The significance of the permanent effect on economy in the operational phase is major beneficial at the LPA scale which is significant in EIA terms.



## 15.8 Statement of Significance

### Construction Phase

15.8.1 In respect of the construction phase, the assessment indicates that the Proposed Development will have the following temporary effects:

- Approximately 456 temporary jobs are estimated to be supported over the construction period through direct and indirect employment. Of these, 169 are anticipated to be on site roles, with the remainder generated within the wider supply chain, including materials, logistics, and support services; and
- An estimated £45.5 million of gross value added per annum is estimated to be generated over the 12-month build period.

15.8.2 In EIA terms, these impacts are considered to have a beneficial and significant effect.

15.8.3 There is potential for minor to moderate adverse effect in relation to effect on neighbourhood amenity as a result of construction activities. These effects are temporary, not considered significant in EIA terms, and will be minimised through the implementation of best practice measures secured *via* a CEMP.

### Operational Phase

15.8.4 In respect of the operational phase, the assessment suggests that the Proposed Development will have the following permanent effects:

- an estimated 534 gross FTE jobs will be supported on site by the employment floorspace; and
- additional GVA associated with the permanent employment associated with the permanent employment floorspace is estimated to be £25.1 million per annum.

15.8.5 In EIA terms, overall, these impacts are considered to have a significant beneficial effect in the long-term, with no significant adverse effects on existing community infrastructure.

### Mitigation and Enhancement

15.8.6 There are no significant adverse effects identified as a result of the Proposed Development. As such, no additional mitigation is deemed to be necessary. No enhancements are expected to be proposed specific to socio-economics beyond those already referred to in the impacts section relevant to other topics.

### Conclusion

15.8.7 Overall, the Proposed Development is to provide beneficial effects during the construction phase in relation to employment and economic contribution. Once operational, significant beneficial effects are expected in relation to wider economic effects.

15.8.8 Adverse but not significant effects is predicted in relation to disturbance to neighbourhood amenity during the construction phase, but this will be temporary and managed by best practice measures through CEMP and relevant management tools. Table 15.24 provides a summary of effects, mitigation and residual effects.



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Table 15.24: Summary of effects, mitigation and residual effects

Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Significance of Effects	Mitigation/ Enhancement Measures	Residual Effects
<b>Construction</b>								
Employment	Construction employment on site	Temporary	Medium	Medium	LPA	Moderate beneficial	n/a	Moderate beneficial (significant)
Economic Contribution	Economic output generated by construction	Temporary	High	Medium	LPA	Major beneficial	n/a	Major beneficial (significant)
Disturbance to neighbourhood amenity	Potential disturbance to local people as a result of construction activities	Temporary	Medium	Low	Local	Minor to moderate adverse	n/a	Minor to moderate adverse (not significant)
<b>Operation</b>								
Employment	Operational jobs on site	Permanent	Medium	Medium	LPA	Moderate beneficial	n/a	Moderate beneficial (significant)
Economic contribution	Economic output generated by on site jobs	Permanent	Medium	Medium	LPA	Moderate beneficial	n/a	Moderate beneficial (significant)
<b>Cumulative</b>								
<b>Operation</b>								
Operational employment	New job creation	Permanent	Medium	Medium	LPA	Major beneficial	n/a	Major beneficial (significant)
Economic contribution	Household spend, council tax revenue and economic output	Permanent	High	High	LPA	Major beneficial	n/a	Major beneficial (significant)
Notes								
Only enter a value where a sensitivity v magnitude effect has been used – otherwise 'Not Applicable'								



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Receptor	Description of Effect	Nature of Effect	Sensitivity	Magnitude of impact	Geographical Importance	Significance of Effects	Mitigation/Enhancement Measures	Residual Effects
Enter either: International, European, United Kingdom, Regional, County, Borough/District or Local								
Enter either: Major/Moderate/Minor/Negligible AND state whether Beneficial or Adverse (unless negligible)								



## 16. Cumulative Effects

### 16.1 Introduction

16.1.1 This Chapter draws together the reported potential for cumulative effects to arise from the Proposed Development either with other known, similar developments in the locality or amplified impacts on shared environmental receptors.

16.1.2 EIA Schedule 4(5) of the EIA Regulations which require the EIA process to undertake an assessment of the likely significant effects, including cumulative effects, that could occur as a result of the Project in combination with other developments:

*“(e) the cumulation of effects with other existing and/or approved projects, taking account, any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;*

...

*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.”*

### 16.2 Methodology

#### Assessment Methodology

16.2.1 The cumulative effects assessment for the Proposed Development follows the guidelines as set by IEMA.<sup>137</sup> IEMA's guidelines recognise two major sources of cumulative effects:

- intra-project effects – This form of cumulative effect occurs as a result of the impacts of the Proposed Development interacting with the impacts of other developments in the vicinity; and
- inter-project effects – These effects occur between different environmental topics within the same proposal, as a result of that development's direct effects (IEMA, 2011).

16.2.2 Inter-project and intra-project effects result from multiple actions on receptors and resources over time. These can be:

- additive – caused by other past, present or reasonably foreseeable actions together with the project itself; and/or,
- interactive/Synergistic – the reaction between effects of a development on different aspects of the environment (IEMA, 2020c).

16.2.3 There is no consistent guidance or standardised approach to the assessment of effect interactions. However, it is recognised that the Proposed Development has the potential to give rise to a variety of impacts upon a number of different receptors, some of which may

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<sup>137</sup>Institute of Environmental Management & Assessment (IEMA) (2020) *Guidelines for Environmental Impact Assessment: Assessing Cumulative Effects*. IEMA, Lincoln.



combine to become significant effects.

- 16.2.4 Table 16.1 summarises the proposed receptor-based assessment process to be used for both construction and operation of the Proposed Development by each technical assessment.

**Table 16.1: Effect interaction assessment process**

Step	Description
Step 1: Identify and categorise receptors	Identify all topic sensitive receptors and their geographical locations based on the study areas and Zones of Influence (Zol) of the respective technical assessments. These will then be categorised by type.
Step 2: Identify impacts	Identify all topic impacts associated with sensitive receptor(s)/receptor types.
Step 3: Screen receptors and associated impacts	A screening exercise will be undertaken upon the identified receptors and impacts. Items are screened out from further assessment if they are:  Receptors where no topic impacts overlap; Receptors with no temporal overlap with topic impacts; or Receptors where topic impacts are identified as 'negligible'.
Step 4: Assess effect interactions	Qualitative assessment based on professional judgement of the effect interactions.

- 16.2.5 The EIA Scoping Opinion Request (Appendix 1.3; Volume 3) outlined the planning applications potentially applicable to the Proposed Development and considered by the EIA team in their assessment. Two planning applications in Hinkley and Bosworth Borough Council and 12 planning applications in North-West Leicestershire Council (NWLC) were initially identified to influence the Proposed Development and put forward to Hinkley and Bosworth Borough Council to confirm the scope of cumulative assessment required (Appendix 1.3; Volume 3).

- 16.2.6 The EIA Scoping Opinion Response from Hinkley and Bosworth Borough Council (Appendix 1.3; Volume 3) requested that the following scheme to be considered:

- 06/00980/OUT – Storage and Distribution hub for Aldi is close to the Site (within 1 km) and is currently under construction.

- 16.2.7 The EIA Scoping Opinion stated that given “...the Site is in England there are no transboundary impacts”.

## 16.3 Cumulative and In-Combination effects

### Inter-project Effects

- 16.3.1 A review of planning applications and Proposed Developments in the vicinity of the Proposed Development was carried out by each technical team to identify other projects considered to constitute ‘major development’ schemes. The key developments considered were the existing Pall-Ex operational centre situated close to the Site (which was assumed to be re-occupied upon once the existing operation ceases and moves to the Proposed Development), Cliffe Hill Quarry approximately 1.7 km to the north-east of the Site, and an Aldi distribution centre 400 m to the south-west of the Site.



- 16.3.2 During the operational phase, minor cumulative noise and vibration impacts may arise; however, these are expected to remain within a range of slight to moderate adverse significance.
- 16.3.3 Cumulative socio-economic effects arising from the Proposed Development and other committed schemes, including the Aldi National Distribution Centre currently under construction, are expected to result in the creation of approximately 907 gross on site jobs. This estimate is based on standard employment density assumptions applied to planned employment floorspace across the schemes. Collectively, these jobs are anticipated to generate £55.1 million in GVA annually. The resulting operational economic uplift is considered moderately beneficial at the LPA scale, and significant in EIA terms.
- 16.3.4 When the Proposed Development is operational, there will be an increase in road traffic on nearby roads. The 2030 baseline and Committed Development scenario included traffic flows associated with the Aldi National Distribution Centre. TEMPro growth have been applied to the 2030 future baseline to account for wider committed development schemes in the area. Therefore, no significant cumulative effects are predicted. The traffic data underpinned the air quality assessment and noise assessment and as such it is considered that these assessments have taken into account the identified development and the continued operation of the existing Pall-Ex site.

#### Intra-project Effects

- 16.3.5 Consideration was given to the cumulative or amplified impacts on shared receptors, where environmental effects from different components of the Proposed Development may have interacted and resulted in greater significance than if assessed individually.
- 16.3.6 Table 16.2 outlines the potential intra-project cumulative effects from the Proposed Development during construction. As previously described in Chapters 7 to 15, it is considered unlikely that there will be any intra-project effects during operation that have not been considered as embedded in the assessment, and so the assessment only considers construction stage effects with the exception of air quality and biodiversity.

**Table 16.2.2: Identified potential intra-related cumulative effects from the Proposed Development during construction.**

Receptor with potential for multiple effects	Potential Intra-Project Effects	Comments
Residential	Air Quality, Noise and Vibration, Traffic and Transport, Ground Conditions, Landscape and Visual and Biodiversity.	Construction of the Proposed Development will result in construction activity not previously present and additional vehicles along access routes. This creates an increase in traffic flows during construction and the potential production of noise, dust and air pollutants during this period which may cumulatively, and without mitigation, effect local communities and nearby residential dwellings.  This ES sets out a suite of mitigation measures, as well as the guidance set out in the Outline CEMP, to minimise and control such in-combination effects on the local area.



- 16.3.7 Traffic and Transport is interrelated with the Air Quality (Chapter 8) and Noise and Vibration (Chapter 9), as both consider traffic flow impacts. The traffic data presented in the Chapter 7 Traffic and Transport was made available and used to inform the assessments in these chapters. No significant inter-related effects have been identified between Traffic and Transport and either Air Quality or Noise and Vibration.
- 16.3.8 The Air Quality assessment identified an effect which was considered to have the potential for cumulative effects with Ecology during the operational phase. This is in relation to the highest annual mean ammonia (NH<sub>3</sub>) Process Contribution of the long term critical load at Oakley Wood SSSI located c. 12.2 km to the north-east of the Site.
- 16.3.9 Taking into consideration that the reported threat to the SSSI is not currently NH<sub>3</sub> levels and the limited extent of the SSSI which will be potentially exposed to the >1 % critical load adjacent to the highway and the lifetime of a woodland, the increase in NH<sub>3</sub> critical load on the SSSI is considered to be of significance at a Local - District level.

## 16.4 Conclusion

- 16.4.1 The EIA did not identify any significant inter-related cumulative effects.
- 16.4.2 The assessment of intra-related cumulative effects of the Proposed Development on shared receptors has concluded that the effects are not significant following implementation of mitigation measures.





## 17. Conclusion

- 17.1.1 This ES has been submitted as part of a planning application seeking to obtain full seeking full planning permission to construct a new distribution hub with ancillary offices, quality control office and canopy, maintenance units, and gatehouse, and associated infrastructure and landscaping to house the growing Pall-Ex (U.K.) Ltd business operations.
- 17.1.2 The aim of the ES has been to assess the 'likely significant effects' of the Proposed Development in accordance with the Town and Country Planning Environmental Impact Assessment Regulations 2017<sup>2</sup>. Detailed assessments with respect to pertinent environmental topics have therefore been undertaken in accordance with definitive standards and legislation where available. The ES forms part of the planning application documentation submitted to Hinkley and Bosworth Borough Council and will inform their decision-making process.
- 17.1.3 The design process has been informed by the detailed environmental assessments so to ensure that key design measures are integral to the scheme (and its construction), so to limit any significant adverse effects.
- 17.1.4 The ES concludes that the likelihood of key significant residual environmental effects arising from the Proposed Development are:
- Significant beneficial socio-economic effects will occur during the construction and operational stage, including the retention and creation of jobs.
  - Moderate adverse effect on severance and increase in fear and intimidation on the users of the local road network.
  - Moderate adverse effects on visual amenity experienced by road users passing along Station Road and Wood Road near the Site.
  - Moderate adverse effects on scattered dwellings along Station Road as a worst case.
- 17.1.5 In addition, there a number of non-significant beneficial (positive) effects reported in relation to ground conditions and biodiversity particularly over the long-term.
- 17.1.6 In conclusion, the ES demonstrates that the design of the Proposed Development and its construction has considered the potential environmental effects and where necessary mitigation measures form an integral part of the Proposed Development to ensure that any identified impacts from the Proposed Development are minimised as far as possible.