



# North East Stevenage EIA Scoping Report

Iceni Projects on behalf of  
Pictures Estate Limited

March 2023

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|---------------------------|------------------------------------|
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## TABLE OF CONTENTS

|                                                   |    |
|---------------------------------------------------|----|
| 1. INTRODUCTION .....                             | 3  |
| 2. DESCRIPTION OF THE SITE AND SURROUNDINGS ..... | 8  |
| 3. PROPOSED DEVELOPMENT .....                     | 12 |
| 4. EIA METHODOLOGY .....                          | 14 |
| 5. SOCIO-ECONOMICS .....                          | 21 |
| 6. AIR QUALITY .....                              | 27 |
| 7. TRANSPORT .....                                | 34 |
| 8. NOISE AND VIBRATION .....                      | 39 |
| 9. ECOLOGY .....                                  | 43 |
| 10. LANDSCAPE AND VISUAL IMPACT .....             | 47 |
| 11. WATER ENVIRONMENT AND FLOOD RISK .....        | 55 |
| 12. ARCHAEOLOGY .....                             | 58 |
| 13. CUMULATIVE EFFECTS .....                      | 62 |
| 14. TOPICS TO BE SCOPED OUT OF THE EIA .....      | 63 |

### APPENDICES

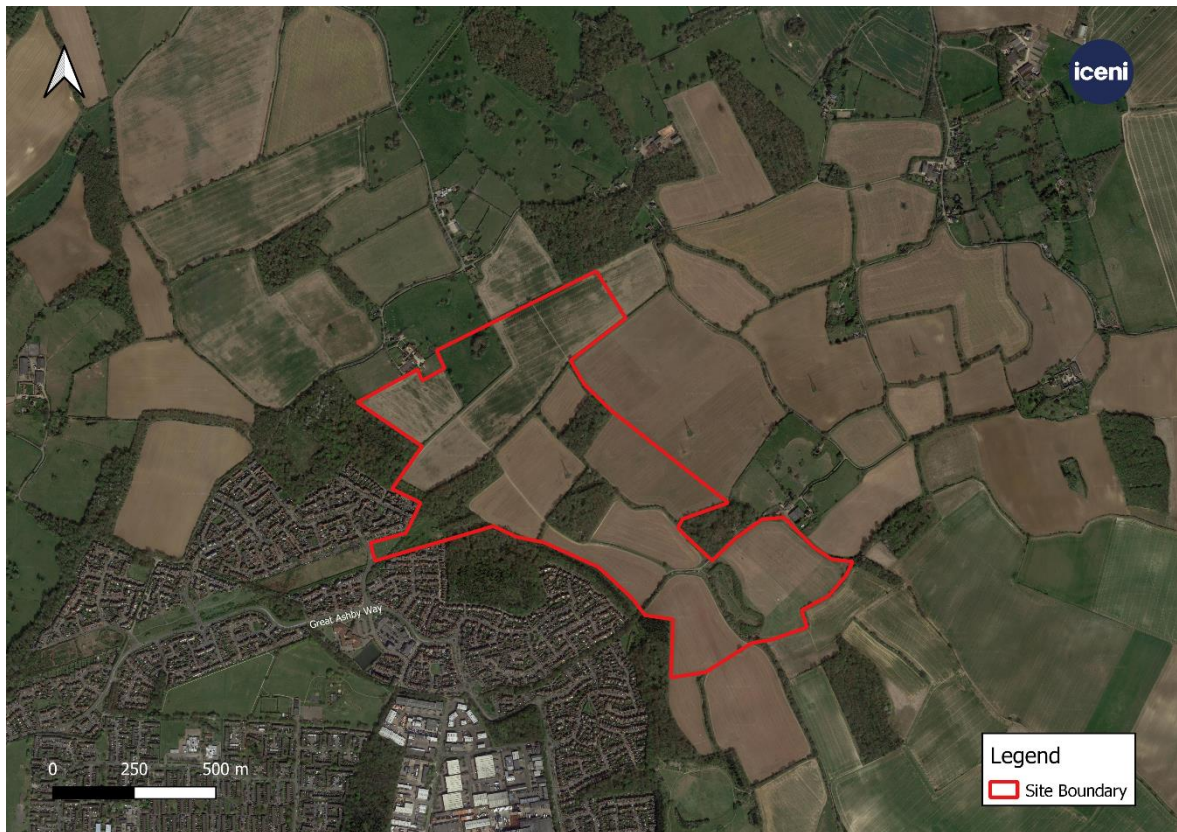
- A1. STRUCTURE OF ES CHAPTERS
- A2. CUMULATIVE SCHEMES
- A3. LVIA ASSESSMENT METHODOLOGY
- A4. PUBLISHED LANDSCAPE CHARACTER ASSESSMENTS
- A5. LANDSCAPE AND VISUAL IMPACT FIGURES

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# 1. INTRODUCTION

- 1.1 The purpose of this report is to inform a request for an Environmental Impact Assessment (EIA) Scoping Opinion from North Hertfordshire District Council ('NHDC') in relation to Picture Estates Limited (the 'Applicant') proposals for the redevelopment of North East Stevenage (the 'Site').
- 1.2 Proposals are being developed for an outline planning application for the residential-led redevelopment of the Site (hereafter referred to as the 'Proposed Development').
- 1.3 EIA is a systematic process that aims to prevent, reduce or offset the significant adverse environmental effects of development proposals and enhance beneficial effects. It ensures that planning decisions are made considering the likely significant environmental effects of the Proposed Development and with engagement from statutory bodies, local and national groups and the public.
- 1.4 This report sets out the findings of an EIA scoping study undertaken by the project team and accompanies a request for a Scoping Opinion submitted to NHDC in accordance with Regulation 15 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (the "EIA Regulations"). In line with the EIA Regulations, this report identifies the Site location, the nature and purpose of the Proposed Development (including its location and technical capacity) and the likely significant effects on people and the environment. The report also outlines the proposed content, approach and scope of the Environmental Statement ("ES"). The ES will present an assessment of the likely significant effects of the Proposed Development associated with construction works and once the Proposed Development is completed and operational. The ES will be 'based on' the Scoping Opinion from NHDC.
- 1.5 **Figure 1.1** shows the Site's location and the maximum extent of land within the red line.
- 1.6 Brief descriptions of the Site and the Proposed Development are provided within Sections 2 and 3 respectively.

**Figure 1.1**      **Site Location Plan**



### **Planning and EIA Context**

- 1.7 The North Hertfordshire Local Plan 2011-2031 was adopted in November 2022, replacing the saved policies of the District Plan Second Review with Alterations.
- 1.8 The site was subject to a full planning assessment and Sustainability Appraisal process as part of the Local Plan making process. This is outlined in the Local Plan evidence base and is summarised in the Housing and Green Belt Background Paper (HOU1) as updated by the Partial Update on Housing Monitoring and 5 Year Supply (ED3).
- 1.9 The Site is considered an appropriate land use for housing and is an allocation for housing development. The site is allocated for approximately 600 dwellings, neighbourhood level retail facilities and education provision. The site is identified as GA2 in the Council's Draft Emerging Allocations July 2016.
- 1.10 The Proposed Development falls within Category 10(b) of Schedule 2 of the EIA Regulations, which is applicable to 'urban development projects'. A formal screening opinion has been received from NHDC, and the proposed topics to be scoped into the ES are based upon the information received within the Screening Opinion. The screening opinion determined that the Proposed Development constitutes EIA development due to the large-scale urbanising effect of the Proposed Development, potential impacts to landscape value, ecology and biodiversity, the local highway network, heritage

assets, and the potential cumulative impacts with nearby development. As such, an Environmental Statement will be submitted with the planning application.

- 1.11 Under the EIA Regulations, the ES will be required to be “based on” the opinion provided by NHDC and will be prepared by competent experts (see below).

### Scoping Summary

- 1.12 The topics scoped in or out of the EIA are based on desk-based research, professional judgement and other information available for the Proposed Development. Below **Table 1.1** outlines a summary of the scoping.

**Table 1.1 EIA Scoping Summary**

| Topic                                | Potential Construction Phase Effects | Potential Operational Phase Effects | Likely Significant Effects (Pre-Mitigation) | Scoping Status |
|--------------------------------------|--------------------------------------|-------------------------------------|---------------------------------------------|----------------|
| Socio-Economics                      | ✓ - T                                | ✓ - P                               | ✓                                           | Scoped In      |
| Air Quality                          | ✗ - T                                | ✓ - P                               | ✓                                           |                |
| Transport                            | ✓ - T                                | ✓ - P                               | ✓                                           |                |
| Noise and Vibration                  | ✓ - T                                | ✓ - P                               | ✗                                           |                |
| Ecology                              | ✓ - T                                | ✓ - P                               | ✓                                           |                |
| Landscape and Visual Impact          | ✓ - T                                | ✓ - P                               | ✓                                           |                |
| Water Environment and Flood Risk     | ✓ - T                                | ✓ - P                               | ✓                                           |                |
| Archaeology                          | ✓ - T                                | ✗ - P                               | ✓                                           |                |
| Daylight, Sunlight and Overshadowing | ✗                                    | ✗                                   | ✗                                           | Scoped Out     |
| Human Health                         | ✗                                    | ✗                                   | ✗                                           |                |
| Major Accidents and Disasters        | ✗                                    | ✗                                   | ✗                                           |                |
| Energy and Sustainability            | ✗                                    | ✗                                   | ✗                                           |                |
| Waste                                | ✗                                    | ✗                                   | ✗                                           |                |
| Wind Microclimate                    | ✗                                    | ✗                                   | ✗                                           |                |

| Topic                               | Potential Construction Phase Effects | Potential Operational Phase Effects | Likely Significant Effects (Pre-Mitigation) | Scoping Status |
|-------------------------------------|--------------------------------------|-------------------------------------|---------------------------------------------|----------------|
| Ground Conditions and Contamination | ×                                    | ×                                   | ×                                           |                |
| Agricultural Land                   | ×                                    | ×                                   | ×                                           |                |
| Climate Change                      | ×                                    | ×                                   | ×                                           |                |

Key: ✓ = Likely Significant Effect / × = No likely Significant Effects

T = Temporary Effect / P = Permanent Effect

- 1.13 A summary of the justification for the scoped-out topics are outlined in **Chapter 14** of this Scoping Report.

### Project Team

- 1.14 In accordance with Regulation 18(5) of the EIA Regulations, it is confirmed that this Scoping Report has been prepared by competent experts from the organisations listed in **Table 1.2**. These specialists will also undertake the EIA and their relevant expertise and qualifications will be stated within each technical chapter of the ES. **Table 1.2** also sets out the proposed structure of the ES.

**Table 1.2 EIA Team and Topic**

|                     | Chapter                                                           | Author                                         |
|---------------------|-------------------------------------------------------------------|------------------------------------------------|
| Volume I: Main Text |                                                                   |                                                |
| 1                   | Introduction and EIA Methodology                                  | Iceni Projects                                 |
| 2                   | Description of Site, Surroundings and Background                  |                                                |
| 3                   | Proposed Development Construction and Description of Alternatives |                                                |
| 4                   | Socio-Economics                                                   | Iceni Projects                                 |
| 5                   | Air Quality                                                       | Waterman                                       |
| 6                   | Transport                                                         | Woods Hardwick                                 |
| 7                   | Noise and Vibration                                               | Waterman                                       |
| 8                   | Ecology                                                           | CSA                                            |
| 9                   | Water Environment and Flood Risk                                  | Woods Hardwick                                 |
| 10                  | Landscape and Visual Impact                                       | Iceni Projects                                 |
| 11                  | Archaeology                                                       | Iceni Projects                                 |
| 12                  | Residual Effects, Mitigation and Cumulative Effects               | Iceni Projects (with input from whole ES team) |

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|         | Chapter               | Author                                        |
|---------|-----------------------|-----------------------------------------------|
| Vol II  | Technical Appendices  | Various                                       |
| Vol III | Non-Technical Summary | Iceni Projects (with input from the EIA team) |

- 1.15 Iceni will be the lead editor of the ES and author of certain chapters. Iceni is a member of the Institute of Environmental Management and Assessment (IEMA) EIA Quality Mark Scheme, an accreditation scheme which sets high standards for EIA practice and demonstrates a commitment to excellence in EIA activities. The editors of the ES are Practitioner members of IEMA.
- 1.16 Each environmental topic scoped into the EIA will be structured as set out in **Appendix 1**.

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## 2. DESCRIPTION OF THE SITE AND SURROUNDINGS

### Site Description and Context

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- 2.1 The land within the continuous solid red line in **Figure 1.1** extends to approximately 53.5 hectares (ha) and is wholly located within the NHDC administrative boundary. The Site is situated within Great Ashby at Ordnance Survey (OS) National Grid Reference (NGR) TL262278.
- 2.2 The Site currently comprises arable fields and areas of woodland. The arable fields within the Site are surrounded by hedgerows, woodlands, and copses. Arable farmland comprising woodland and hedgerows are found adjacent to the site to the north and the east, and the Site is located immediately northeast of the parish of Great Ashby within Stevenage. The Site has a number of footpaths and bridleways running through and adjacent, and is bounded to the southwest by the existing residential buildings of Great Ashby and agricultural land.

### Planning Context of the Site

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- 2.3 The Site has the following allocations in accordance with North Herts Local Plan 2011-2031 and the previous Saved North Hertfordshire District Local Plan:
- The site lies within the Green Belt and the Saved North Hertfordshire District Local Plan designates the site as such through Policy 2 (Green Belt).
  - Some areas of the site also lie within Landscape Character Areas 220 and 221 (North Hertfordshire and Stevenage Landscape Character Assessment).

### History of the Site

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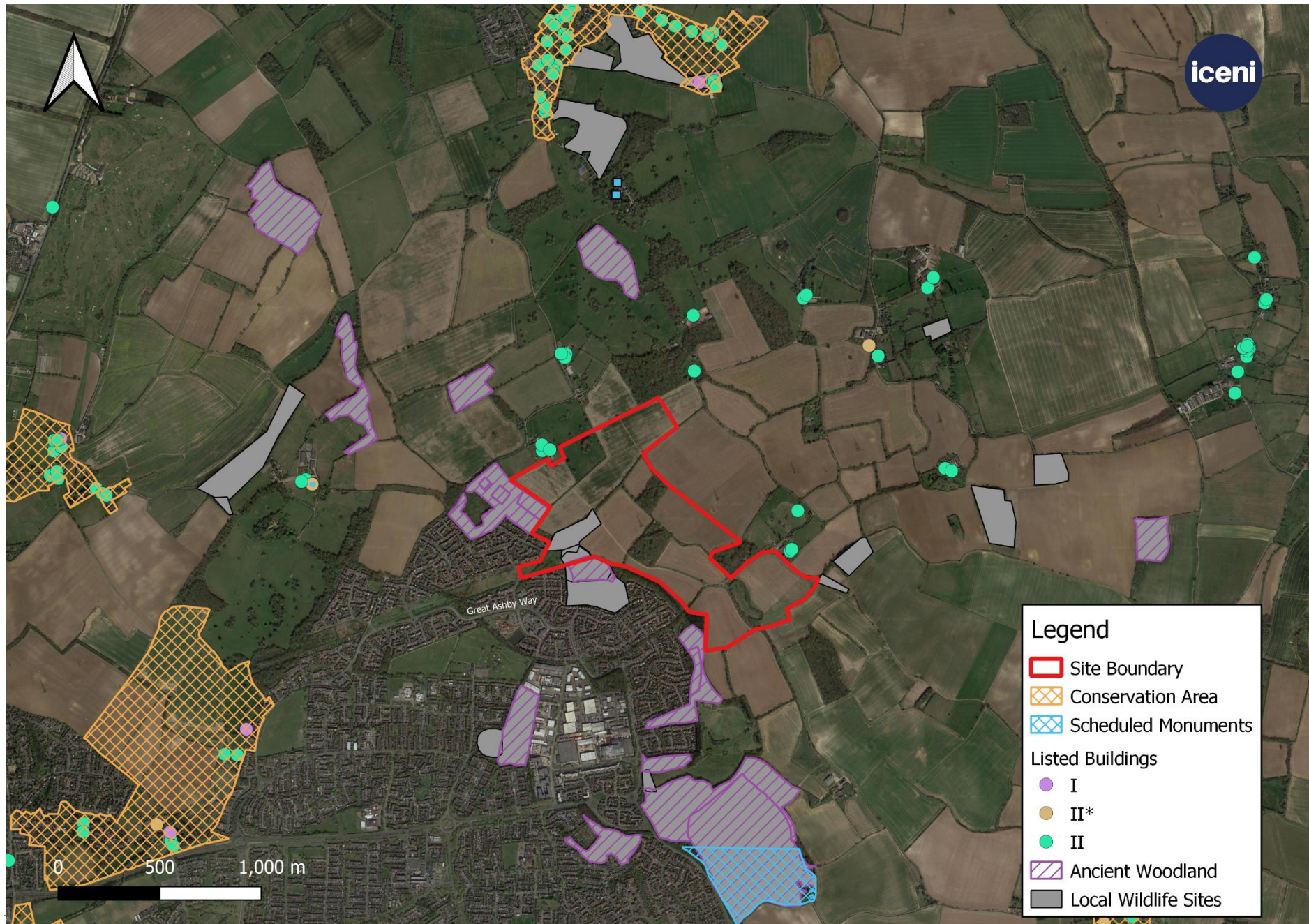
- 2.4 The Site has been used for arable production. Land Uses
- 2.5 The Site is bound by the following:
- To the north by areas of woodland blocks and arable land. Tile Kiln Farm lies immediately beyond a section of the north Site boundary;
  - To the east by woodland blocks and arable land;
  - To the south by the parish of Great Ashby, where the local area comprises low density residential dwellings of typically one to three storey buildings. Also areas of ancient woodland and a local wildlife site lies close to the southeast corner of the Site; and

- 
- To the west by an area of ancient woodland abutting the western boundary, with arable land lying further beyond the area of woodland.

2.6 The nearest bus stop to the Site is located on Great Ashby Way, approximately 600m west of the Site. This bus stop is served by service SB7, providing regularly services to Stevenage town centre. The nearest train station is Stevenage, located approximately 4.5km to the south-west of the Site with southbound services to London, and northbound services to Cambridge, Peterborough, York, Leeds, and Edinburgh.

2.7 **Figure 2.1** shows the key environmental sensitivities surrounding the Site.

Figure 2.1 Environmental Constraints Map



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- 2.8 The Site does not contain any heritage assets designated as being of national importance, such as listed buildings or Parks and Gardens of Special Historic Interest. There are no Scheduled Monuments within the Site. The nearest listed building is the Grade II Tile Kiln Farm, located immediately adjacent to a section of the northern boundary of the Site.
- 2.9 The Site does not fall within any Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Sites of Special Scientific Interest (SSSI), Natural Nature Reserves (NNR) or Local Nature Reserves (LNR). The nearest statutory designated site is Benington High Wood (SSSI). New Spring Wood LWS and Brooches Wood LWS lie partially within the Site.
- 2.10 There are a number of ecological designations which are close to the Site, including:
- Tilekiln Wood Ancient Woodland, located immediately adjacent to the western boundary of the Site;
  - Claypithills Spring Local Wildlife Site, located approximately 45m south;
  - Earthworks in Boxwood Scheduled Monument, located approximately 1.05km south;
  - St Nicholas's Rectory Lane Conservation Area, located approximately 1.35km south-west;
  - Weston Conservation Area, located approximately 1.45km north;
  - Walkern Conservation Area, located approximately 2.05km south-east;
  - Benington High Wood SSSI, located approximately 3.65km south-east; and
  - Moor Wood Meadows SSSI, located approximately 5.75km east.
- 2.11 The Site is not located within or adjacent to an Air Quality Management Area (AQMA).
- 2.12 The Site is located within Flood Zone 1 and is underlain by clay over a mixture of soft and hard chalk. The site overlies a principal aquifer.

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### 3. PROPOSED DEVELOPMENT

#### Overview of the Application

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- 3.1 The Applicant proposes the comprehensive redevelopment of the Site to provide a residential-led development.
- 3.2 The Applicant intends to submit an outline planning application for the Proposed Development. The precise description of development has not been finalised, however, is likely to include:
- Up to 650 Market and Affordable homes;
  - Construction of the Principle Access Road from Mendip Way;
  - Up to 500sqm retail, food and beverage, and medical and social floorspace;
  - Up to 4ha of non Green Belt land to make provision for a 2FE primary and possible 4FE secondary school; and
  - Suitable parking infrastructure designed in line with local car parking standards.
- 3.3 Principle access to the Site is to be provided via Mendip Way, with provision for sustainable modes of transport in alignment with the Stevenage Mobility Strategy. The access road to the Site will be designed to effectively integrate into the nearby existing road networks.
- 3.4 The Proposed Development would range in heights and massing. Heights and massing have not been finalised but are anticipated that they could come forward within a range of between ground plus up to 4 storeys and a maximum height of up to 19m to the ridge.
- 3.5 The proposals are at an early stage of design and will be developed further with input of technical analysis as part of the EIA process and in consultation with NHDC and other stakeholders. Mitigation measures will be incorporated and designed into the Proposed Development, where possible, to avoid or reduce likely significant adverse effects on the environment and local community.

#### Construction

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- 3.6 An indicative timeframe of the likely construction programme and methodology will be provided in the ES once the proposals have been further developed. Timescales and methods are likely to be comparable with other developments of a similar nature and scale. At this point in time, we estimate

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the overall construction programme could last approximately 5 years, with works likely to commence in 2025 subject to planning permission. This may be updated in the ES.

| 2023 | 2024    | 2025                 | 2026 | 2027 | 2028 | 2029 | 2030 | Totals |
|------|---------|----------------------|------|------|------|------|------|--------|
| appn | op/rm/s | construction ongoing | 100  | 150  | 150  | 150  | 50   | 600    |

- 3.7 The ES will include measures necessary to mitigate construction effects. The nature of these documents and other measures would be discussed further with NHDC through pre-application discussion.

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## 4. EIA METHODOLOGY

### Proposed EIA Methodology

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- 4.1 The ES will be prepared in accordance with the EIA Regulations and reference will be made to current EIA good practice guidance.
- 4.2 The assessment of likely significant effects in the ES will set out the effects associated with the construction works and once the Proposed Development is completed and operational. The general approach to the EIA process is outlined below, although some assessments may deviate from the general approach owing to methodologies and technical guidance specific to the topic.

### Consultation and Scoping Opinion

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- 4.3 A programme of consultation with key stakeholders will be undertaken with statutory and non-statutory consultees throughout the design and in the lead up to submission of the planning applications. Key stakeholders include NHDC, Historic England, Natural England and the Environment Agency.
- 4.4 In line with the EIA Regulations, the ES will be 'based on' the Scoping Opinion provided by NHDC in light of this report. Each ES technical chapter will set out key points made during the scoping and consultation process between the project team and stakeholders and will clearly explain how these have been addressed by the EIA process.

### Receptors

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- 4.5 Below **Table 4.1** outlines the key receptors associated with the Proposed Development. The technical assessments completed as part of the EIA will consider the following receptors, and the receptors associated with each scoped in topics will be included in their chapters within this Scoping Report.

**Table 4.1      Summary of Receptors**

| Topic               | Receptor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Socio-Economics     | <ul style="list-style-type: none"> <li>• Local labour market at the wider impact area level</li> <li>• Local economy at the wider impact area level</li> <li>• The local housing market and people requiring housing in the wider impact area</li> <li>• Local education facilities at the relevant school catchment area (early years, primary school, and secondary school)</li> <li>• Local healthcare facilities (GP Facilities) in the relevant GP catchment area</li> <li>• Surrounding open spaces, play spaces and sports facilities in the relevant open space distance set out in NHDC guidance.</li> <li>• Local community facilities (libraries, youth centres and community centres) in the local impact area</li> <li>• Future residents of the Site</li> <li>• The local environment at the local impact area</li> </ul> |
| Air Quality         | <ul style="list-style-type: none"> <li>• Great Ashby residential (west and south)</li> <li>• Tile Kiln Farm, residential (north)</li> <li>• Dane End residential (south-east)</li> <li>• Future Development receptors (residential and school)</li> <li>• Knebworth Woods SSSI or Sherrardspark Wood SSSI</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Transport           | <ul style="list-style-type: none"> <li>• Impact on Traffic Flows</li> <li>• Non-motorised users e.g. pedestrians and cyclists</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Noise and Vibration | <ul style="list-style-type: none"> <li>• Great Ashby residential (west and south)</li> <li>• Tile Kiln Farm, residential (north)</li> <li>• Dane End residential (south-east)</li> <li>• Future Development receptors (residential and school)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Ecology             | <ul style="list-style-type: none"> <li>• Local Wildlife Sites</li> <li>• Bats</li> <li>• Badger</li> <li>• Dormouse</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Topic                       | Receptor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             | <ul style="list-style-type: none"> <li>Nesting birds</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Landscape and Visual Impact | <ul style="list-style-type: none"> <li>The Site</li> <li>LCA 39: Middle Beane Valley</li> <li>LCA 220: Weston Plateau Parklands</li> <li>LCA 219: Baldock Gap</li> <li>LCA 221: Upper Beane Valley Tributaries</li> <li>LCA 222: Weston – Green End Plateau</li> <li>Residents of Great Ashby North</li> <li>Residents of Great Ashby South</li> <li>Residents of Tilekiln Farm</li> <li>Residents of Dane End</li> <li>Residents of Howells Farm</li> <li>Residents of Hall's Green</li> <li>Residents of Warren's Green</li> <li>Residents at Weston Park</li> <li>Residents of Weston</li> <li>Residents of Manor Farm</li> <li>Residents of Leatherwells</li> <li>Residents of Walkern</li> <li>Residents of Luffenhall</li> <li>Recreational users within the perimeter of the Site</li> <li>(PRoW WESTON - 46,29, 26, 44, 33, 31 and Hertfordshire Way)</li> <li>Recreational users of Hertfordshire Way</li> <li>Recreational users within Weston Park</li> <li>Recreational users to the north of the Site (Graveley 9, 5 and Weston 17, 18,40)</li> <li>Recreational users to the east of the Site (PRoW 34, 32, 35, 24, 28)</li> </ul> |

| Topic                            | Receptor                                                                                                                                                                                                                                |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                  | <ul style="list-style-type: none"> <li>Recreational users to the south of the Site (PRoW Walkern 22, 33, 34, 25,42,26)</li> <li>Drivers on Warrensgreen Lane</li> <li>Drivers on Back Lane</li> <li>Drivers on Dane End Lane</li> </ul> |
| Water Environment and Flood Risk | <ul style="list-style-type: none"> <li>Watercourse within the site</li> <li>Thames Water Foul Sewerage Network</li> </ul>                                                                                                               |
| Archaeology                      | <ul style="list-style-type: none"> <li>Prehistoric Remains</li> <li>Roman Remains</li> <li>Medieval Remains</li> <li>Post-medieval Remains</li> </ul>                                                                                   |

## Alternatives

- 4.6 In accordance with the EIA Regulations, the ES will provide *“a description of the reasonable alternatives.... relevant to the proposed project and its specific characteristics which have been considered by the Applicant and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects”*.
- 4.7 The ES will describe the reasonable alternatives to the Proposed Development which have been considered by the Applicant, including:
- the ‘do-nothing’ scenario - this will outline the consequences of no Development taking place and the Site remaining in its current form; and
  - alternative designs – for example, alternative uses, heights, and massing, together with the main reasons for selecting the final design, including a comparison of effects.
- 4.8 No alternative sites were considered by the Applicant due to their ownership of the vast majority of the Site area, and as such alternatives will not be considered in the ES.

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## EIA Methodology

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### Significant Effects and Scope of the EIA

- 4.9 As highlighted by the UK Government Online Planning Practice Guidance (PPG), when considering the scope of EIA, local planning authorities *“should limit the scope of the assessment to those aspects of the environment that are likely to be significantly affected”*.
- 4.10 With respect to identifying the likely significant environmental effects associated with the Proposed Development, consideration will be given to potential effects associated with the construction works and the Proposed Development once completed and operational. These effects could be both beneficial and adverse and deemed to be ‘significant’ on the basis of:
- the value/importance of the resources and receptors that could be affected;
  - the predicted magnitude of environmental change and/or impact experienced by these resources and receptors, accounting for their size, duration and spatial extent;
  - the susceptibility or sensitivity of resources/receptors; and
  - options for avoiding, reducing, offsetting or compensating for any potentially significant adverse effects and the likely effectiveness of such mitigation measures.
- 4.11 Sections 5 to 10 set out those aspects of the environment that are likely to be significantly affected by the Development. Potential effects deemed to be non-significant within topics that are scoped into the ES are also included within these sections. Section 12 sets out those likely effects on the environment that are unlikely to be significant and therefore the topics that will clearly be scoped out of the relevant chapter of the ES.

### Determining the Significance of Effects

- 4.12 Determining the significance of environmental effects is intended to inform decision making. The significance of effects will be determined by specialists with reference to generic assessment criteria or specific criteria for each environmental topic being considered. These criteria will apply a common terminology, classifying whether the effects are major, moderate or minor, as well as, adverse, negligible or beneficial, temporary or permanent, in line with standard practice. In general, likely residual effects reported as moderate or major significance are considered to be ‘significant’. Where there is deviation from this owing to specific criteria or guidance relating to an environmental topic, this will be set out in the ES.

### Study Area

- 4.13 The study area for each environmental topic will be based on the geographical scope of the potential for significant effects relevant to the topic or the information required to assess the likely significant effects, as well as specific guidance and consultation with stakeholders.

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#### Baseline and Future Baseline Conditions

- 4.14 Baseline environmental conditions need to be established to enable an accurate assessment of potential changes to such conditions that may occur and to assess the likely significant environmental effects of the Development. Understanding baseline conditions is also important for the identification of the most appropriate mitigation which could be employed to reduce any likely significant adverse effects.
- 4.15 Baseline conditions will be taken as the current conditions on the Site. Baseline information will be gathered through desk-based research and Site surveys undertaken in 2020 to define and describe the existing environmental characteristics and receptors for each environmental topic that will be provided within the ES. Where environmental information and data is not available for 2020, it will be necessary to use data which pre-dates 2020. The ES will set out what year the baseline data is sourced from.
- 4.16 In addition to the current baseline conditions, the EIA Regulations require an outline of the likely evolution of the baseline condition 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 (i.e. future baseline). The future baseline will also take into account climate change and other developments that will be built out that may affect the Site. The future baseline conditions will be described in each chapter of the ES.

#### Construction Assessment

- 4.17 An indicative construction programme for the Development will be presented in the ES. This will include all parts of construction including preparation, construction and landscaping works.
- 4.18 The ES will outline the main activities associated with the construction works, together with the likely duration of the main activities. Topics which have identified likely significant effects from construction activities are outlined in the sections below. Mitigation measures will be set out in the ES to avoid, reduce or mitigate potential adverse effects.
- 4.19 In line with Institute of Environmental Management and Assessment ('IEMA') best practice, 'tertiary' mitigation is defined as that which *"will be required regardless of any EIA assessment, as it is imposed, for example, as a result of legislative requirements and/or standard sectoral practices. For example, considerate contractor practices that manage activities which have potential nuisance effects"*. As such, the ES will rely on standard practice in the management of the construction works of the Development that will be detailed in the ES. These measures will therefore be taken into account and form the basis of the assessment of likely significant effects. As such, any effects that might have arisen without this mitigation will not be identified as 'likely effects', as there should be no potential for them to arise. This should result in a simpler and more proportionate ES. Where such measures have been taken into account this will clearly be identified within the ES.

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- 4.20 An interim assessment of construction works, which considers the effects of the Development partway through construction is not proposed, although the assessment will consider the effects of construction on future receptors.

#### **Completed Development Assessment**

- 4.21 The likely significant effects of the completed Development will be assessed for the anticipated year of completion. The assessment will assume that the Development is fully completed and occupied and will take into account environmental design that has been embedded into the Development.

#### **Cumulative Effects Assessment**

- 4.22 Cumulative effects can occur either when different effects from the Development interact to exacerbate effects on sensitive receptors, or, when the magnitude of an effect is exacerbated by other future neighbouring developments, thus creating a more significant effect, on a receptor.
- 4.23 The potential for cumulative effects to arise will be considered in each technical chapter for construction and once the Development is completed and operational. Further details including the proposed cumulative schemes are provided in **Appendix A2**.

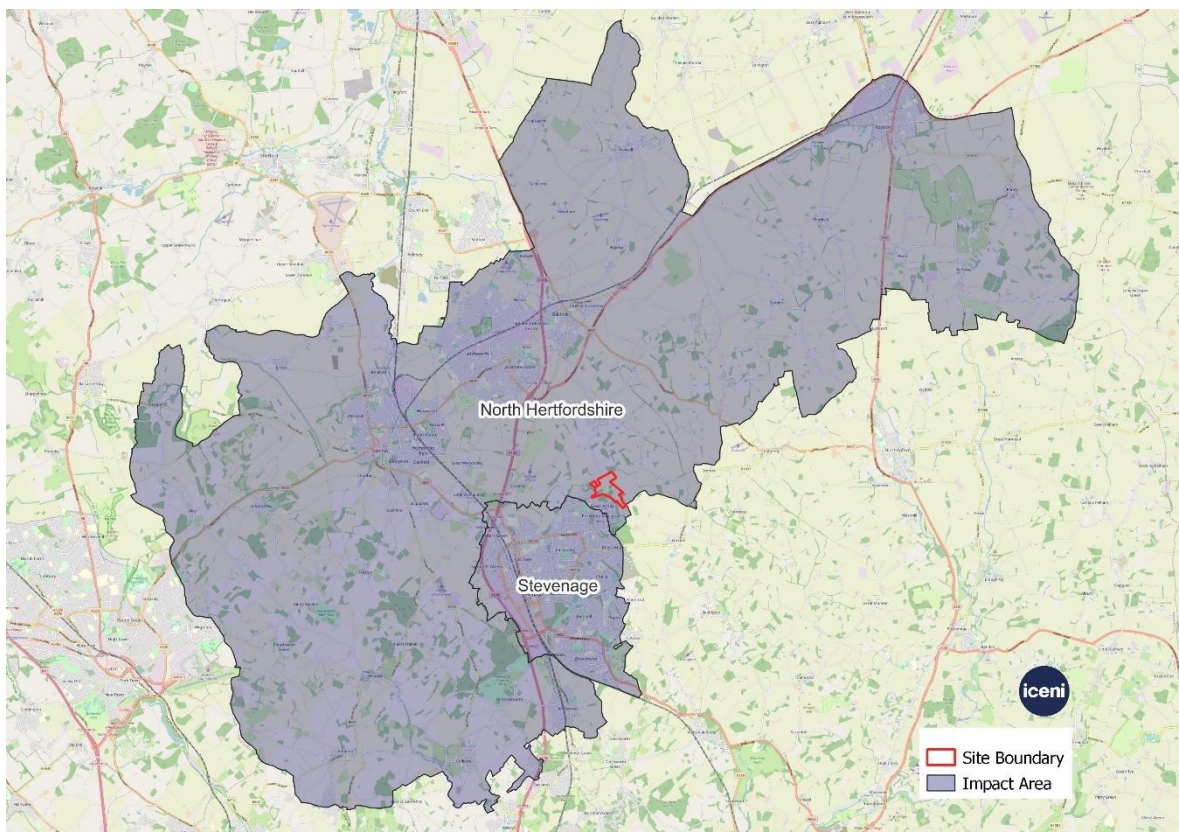
## 5. SOCIO-ECONOMICS

### Establishing Baseline Conditions and Study Area

#### Study Area

- 5.1 The Proposed Development Site is located north-east of the parish of Great Ashby within the administrative boundary of North Hertfordshire District Council (NHDC) but close to the boundary of Stevenage Borough Council (SBC). An impact area has been identified which includes the local authority boundaries of North Hertfordshire and Stevenage to provide an understanding of the characteristics of the area surrounding the Site. Given the rural nature of much of North Hertfordshire District and the proximity to the urban area of Stevenage to the Site, it is a reasonable to expect that there will be a functional relationship between the two local authority areas. The extent of this impact area may be varied for some receptors following best practices or the availability of data. Where this is the case, this will be highlighted within the ES chapter. A map of the proposed Impact Area is shown in the figure below.

**Figure 5.1** Socio-economic Study Area



- 5.2 For certain social infrastructure, the relevant catchment area to the Proposed Development Site will be used as this represents the geographical area as set by the social infrastructure provider. These include:

- Education: Following the Primary and Secondary priority areas as set by Hertfordshire County Council.
- GP Practices: Using GP Practice catchment area as per NHS Choices.
- Open Space: Following the open space thresholds as set in NHDC and SBC guidance.

### **Baseline Conditions**

- 5.3 The Impact Area had an estimated population of 222,891 in 2021. The population has grown by 5.3% since 2011, an increase of 11,150 people. 63% of the population of the Impact Area are of working age (ages 16-64) which is similar to the average for the East of England (62%).
- 5.4 The labour profile of the Impact Area shows that 80.2% of residents are economically active which is lower than the average for the East of England region (81.1%). A higher proportion of the population in the Impact Area are unemployed (4.6%) compared to the East of England (3.9%) and nationally (4.6%). This indicates that there is some flexibility in the impact area's labour market to support new jobs.
- 5.5 There is a higher proportion of residents in the Impact Area working in higher-skilled occupations (59.0%) when compared with the East of England (49.1%) and England (51.1%). This includes roles such as managers, directors, and professional occupations. Conversely, there is a smaller proportion of North Hertfordshire's residents working in process plant and elementary occupations (6.7%) compared with the East of England (14.8%) and England (14.9%).
- 5.6 Residents' annual earnings in NHDC are £38,413 per year and in SBC they are £32,999, which is higher than the regional average of £32,053 per year for 2021. In comparison, workplace earnings in NHDC are lower at £35,162 per year but higher in SBC at £38,648. This is higher than both the regional and national averages. The total number of jobs in the Impact Area in 2021 amounted to approximately 117,000. The number of jobs in the Impact Area increased by 1,000 between 2016 and 2021 (0.9%).
- 5.7 The labour demand for the Impact Area shows that there are 100,350 employee jobs in North Hertfordshire District. Key employment sectors include Health (14.6%), Manufacturing (12.6%), and Professional, Scientific and Technical (9.7%). Conversely, sectors that have the smallest proportion of employment in the Impact Area are Agriculture, Forestry and Fishing (0.3%), Mining and Quarrying (0.8%), and Property (1.9%).
- 5.8 A review of the English Index of Multiple Deprivation, 2019 for the Lower Super Output Area where the Proposed Development is located (North Hertfordshire 005G) shows that the area is ranked within the 50% least deprived areas in the country. Out of the nine indicators of deprivation, the area

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is ranked in the 10-20% least deprived neighbourhoods except for Crime (40% least deprived), Barriers to Housing and Services (10% most deprived), and Living Environment (10% most deprived).

- 5.9 The NHDC Local Plan 2011-2031 states that over the plan period, there is a need for 678 new dwellings per annum. The Plan also aims for 33% of all homes over the plan period to be affordable housing for local needs with targets to deliver up to 40% affordable housing where viable.
- 5.10 The education profile for the Impact Area shows that less than 3.8% of residents do not have any qualifications, which is lower than regionally (4.8%) and England (6.2%). Conversely, 53.3% of residents in the district have a degree-level education (NVQ4), which is higher than the East of England average (39.6%) and national average (43.2%).
- 5.11 The health profile of the Weston and Sandon Ward in which the Site is located shows that it performs slightly better than the district and national averages. It is estimated that the average life expectancy is 82.9 years for males and 90.2 for females. This is higher than the average life expectancy for men and women across England. The IMD rank for health deprivation indicates that the Site falls within the 10% least deprived neighbourhoods in the country.
- 5.12 The location of the proposed Site means that it benefits from a range of social infrastructure within Great Ashby. This includes nursery schools, primary and secondary schools, health care, places of worship, sports facilities and community centres. However, the new residential population of the Proposed Development will increase demand for social infrastructure in the area. Therefore, a review of the existing and proposed facilities in the Impact Area will be undertaken to understand the additional demand on social infrastructure.

## **Potential Effects**

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### **Likely Significant Effects**

#### *Construction*

- 5.13 During the construction phase, temporary construction employment will be generated. The significance of this will be assessed by understanding the uplift to construction employment the Proposed Development will generate. This will create positive economic impacts including the generation of GVA. There will also be multiplier effects generated from the supply chain and the spending into the local economy.

#### *Operation*

- 5.14 Once the Proposed Development is complete and operational, the socio-economic impacts include:

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- Contribution of the scheme to local housing provision.
  - Impacts on the economy assessed through the increase in local spending from the new on-site residents.
  - Direct employment associated with the retail, food and beverage, and medical and social floorspace.
  - Effects on existing and future resident's health, both mental and physical.
  - The effect of the Proposed Development on the provision of social infrastructure, including education (early years, primary and secondary schools), primary healthcare (GP facilities), open space (to include sports facilities and play space), community centre (to include libraries, youth centres and community centres). These will be assessed within the relevant impact area(s).
  - Deprivation effects on the neighbourhood will also be assessed.

#### **Non-Significant Effects**

- 5.15 There are no non-significant effects anticipated for the socio-economic chapter.

#### **Assessment Methodology**

- 5.16 There is no established guidance for undertaking a socio-economic assessment as part of EIA. A desk-based assessment will be undertaken, supported by consultation with relevant stakeholders. The assessment will also apply professional judgement.
- 5.17 The assessment will include a review of the planning policy context (at the national, regional and local level) and take into account relevant economic strategies. This includes, but will not be limited to, the following:
- National Planning Policy Framework (2021);
  - Hertfordshire Skills and Employment Strategy (2021);
  - Hertfordshire LEP Strategic Economic Plan 2017-2030 (2017);
  - North Hertfordshire Local Plan 2011-2031 (2022); and
  - North Hertfordshire Economic Development Strategy (2015).
- 5.18 The baseline analysis will identify the current demographic profile of the area as well as the local economy and labour market, provision of housing, social and community infrastructure in the area, including any deficiencies or surplus capacity and any new facilities, already planned.

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- 5.19 The baseline assessment will identify the current demographic, economic, housing and health profile of the area as well as the provision of housing, and social infrastructure in the area. The baseline will draw on Office for National Statistics (ONS) data, the Office for Health Improvement and Disparities, the Department of Education, NHS Digital, and other recognised sources. The English Indices of Multiple Deprivation (2019) will be used to consider deprivation levels.
- 5.20 It is proposed that a Health Impact Assessment (HIA) will be undertaken and will form a technical appendix to the Chapter. This will provide an assessment, detailing how the Proposed Development performs in terms of health and will identify any negative health impacts and seek to maximise any positive health impacts. The recommendation to complete an HIA is outlined in Hertfordshire County Council's Position Statement on Health Impact Assessments which suggests that an HIA is carried out on developments of over 100 residential units. The methodology of this will align with the Wales Health Impact Assessment Support Unit methodology and will be scoped with the Hertfordshire Public Health Team.
- 5.21 The evaluation of the effects of the Proposed Development will be based on an assessment of the magnitude of the effect and the importance of the identified receptor. Effects will be identified on a matrix basis from major adverse through to major beneficial, representing the scale of effects above and beyond the baseline position. Effects will be evaluated on a net additional basis taking into account existing conditions at the Site. Where possible, the scale of effect will be quantified concerning current levels of the provision under each receptor. The duration of the impacts will also be taken into account.
- 5.22 The significance of each of these overall socio-economic effects will be assessed, considering deprivation, local unemployment levels and economic activity rates, commuting patterns and housing needs. Where significant adverse effects are identified, appropriate mitigation measures to address any significant adverse effects will be included and assessed.
- 5.23 Mitigation measures will be identified to maximise the positive impacts of the Proposed Development and to offset any potentially significant adverse impacts.
- 5.24 Consideration will also be given to the cumulative impacts of the Proposed Development with other committed and proposed developments in the area as agreed through consulting with the Council.

#### **Receptors**

- 5.25 The main receptors to be considered within the Socio-Economic assessment are detailed in **Table 5.1** below:

**Table 5.1 Socio-Economic Receptors**

| Receptor                                                                                                                 | Effects                                                                                                                                                                                                    | Scoped In |
|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Local labour market                                                                                                      | <ul style="list-style-type: none"> <li>• Temporary effect of the construction employment</li> <li>• Permanent end-user employment at the Proposed Development Site</li> </ul>                              | ✓         |
| Local economy                                                                                                            | <ul style="list-style-type: none"> <li>• Temporary construction injection of capital</li> <li>• Permanent increase in residential spend</li> </ul>                                                         | ✓         |
| The local housing market and people requiring housing in the impact area                                                 | <ul style="list-style-type: none"> <li>• Permanent effect of increase to housing against the housing target as per the Local Plan.</li> </ul>                                                              | ✓         |
| Local education facilities at the relevant school catchment area (early years, primary school, and secondary school)     | <ul style="list-style-type: none"> <li>• The permanent effect the changes in the population will have on education facilities which could cause capacity issues.</li> </ul>                                | ✓         |
| Local healthcare facilities (GP Facilities) in the relevant GP catchment area                                            | <ul style="list-style-type: none"> <li>• The permanent effect the changes in the population will have on GP facilities' capacity.</li> </ul>                                                               | ✓         |
| Surrounding open spaces, play spaces and sports facilities in the relevant open space distance set out in NHDC guidance. | <ul style="list-style-type: none"> <li>• There is a wide range of open spaces (including play space and sport) within the local impact area which will be susceptible to changes in population.</li> </ul> | ✓         |
| Local community facilities (libraries, youth centres and community centres)                                              | <ul style="list-style-type: none"> <li>• The permanent effect of the changes in the population will have community facilities.</li> </ul>                                                                  | ✓         |
| Future residents of the Site                                                                                             | <ul style="list-style-type: none"> <li>• Health of future residents because of the Proposed Development in operation</li> </ul>                                                                            | ✓         |
| The local environment                                                                                                    | <ul style="list-style-type: none"> <li>• Permanent effects on deprivation levels including crime.</li> </ul>                                                                                               | ✓         |

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## 6. AIR QUALITY

### Establishing Baseline Conditions and Study Area

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#### Study Area

- 6.1 The study area for the construction phase will cover an area up to 350m from the Site boundary, and up to 50m of construction routes up to 500m from the Site entrance.
- 6.2 The study area for the complete and operational phase will cover receptors along roads surrounding the Proposed Development or along roads with an increase in annual average daily traffic of over 500 light duty vehicles (LDV's) or 100 heavy duty vehicles (HDV's) accordance with the Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM) guidance (EPUK/IAQM Guidance)<sup>1</sup>.

#### Baseline Conditions

- 6.3 NHDC has declared two Air Quality Management Areas (AQMAs) for annual mean nitrogen dioxide (NO<sub>2</sub>). The two AQMA's are;
- NHDC Air Quality Management Order No.1 2012 located approximately 6.6km north-west of the Site; and
  - NHDC Air Quality Management Order No.2 2016 - Paynes Park Roundabout, located approximately 7.5km north-west of the Site.
- 6.4 Monitoring data for 2020 and 2021 were not considered representative of normal baseline conditions due to the COVID19 pandemic and have therefore not been considered further. 2019 monitoring data is considered a conservative estimate of existing baseline air quality conditions.
- 6.5 In 2019, NHDC undertook monitoring of NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> at two automatic monitors. Details of the automatic monitors are presented below:
- Stevenage Road NO<sub>x</sub> (NH1) roadside monitor, located approximately 7.1km west of the Site, measuring NO<sub>2</sub>; and

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<sup>1</sup> Moorcroft and Barrowcliffe. et al. (2017) Land-use Planning & Development Control: Planning for Air Quality. v1.2. Institute of Air Quality Management, London

- Stevenage Road PM (NH2) roadside monitor located approximately 7.1km west of the Site, measuring PM<sub>10</sub> and PM<sub>2.5</sub>.

6.6 Results for the two NHDC automatic monitors are presented in **Table 6.1**.

**Table 6.1 Measured Concentrations at NHDC automatic monitors**

| ID  | Pollutant         | Averaging Period                 | AQS Objective                                                     | 2016        | 2017        | 2018        | 2019        |
|-----|-------------------|----------------------------------|-------------------------------------------------------------------|-------------|-------------|-------------|-------------|
| NH1 | NO <sub>2</sub>   | Annual Mean (µg/m <sup>3</sup> ) | 40µg/m <sup>3</sup>                                               | <b>50.0</b> | <b>48.0</b> | <b>44.0</b> | <b>45.0</b> |
|     |                   | 1-Hour Mean (No. of Hours)       | 200µg/m <sup>3</sup> not to be exceeded more than 18 times a year | 10.0        | 4.0         | 0.0         | 0.0         |
| NH2 | PM <sub>10</sub>  | Annual Mean (µg/m <sup>3</sup> ) | 40µg/m <sup>3</sup>                                               | 25.5        | 20.1        | 21.5        | 20.4        |
|     |                   | 24-Hour Mean (No. of Days)       | 50µg/m <sup>3</sup> not to be exceeded more than 35 times a year  | 4.0         | 7.0         | 1.0         | 5.0         |
|     | PM <sub>2.5</sub> | Annual Mean                      | 25µg/m <sup>3</sup>                                               | 18.0        | 12.2        | 10.0        | 8.4         |

Notes: Data obtained from the 2021 North Hertfordshire District Council Air Quality Annual Status Report  
Exceedences of the AQS Objectives shown in **bold text**

6.7 The monitoring results in **Table 6.1** indicate the annual mean NO<sub>2</sub> objective was exceeded at the NH1 monitor from 2016 to 2019. All other AQS objectives were met at both monitors from 2016 to 2019.

6.8 In 2019, NHDC also measured annual mean NO<sub>2</sub> concentrations at 48 locations using diffusion tubes. **Table 6.2** presents the results from the ten diffusion tubes within 6.5km of the Site.

**Table 6.2 Measured Concentrations at NHDC diffusion tubes within 6.5km**

| Site ID | Address                                           | Classification | Approximate Distance to Site Centre (km) | Annual Mean NO <sub>2</sub> Concentrations (µg/m <sup>3</sup> ) |      |      |      |
|---------|---------------------------------------------------|----------------|------------------------------------------|-----------------------------------------------------------------|------|------|------|
|         |                                                   |                |                                          | 2016                                                            | 2017 | 2018 | 2019 |
| NH133   | George & Dragon, High Street, Graveley            | Roadside       | 3.1                                      | -                                                               | -    | -    | 18.2 |
| NH134   | 6 Bucks Head Cottages, Stevenage Rd, L. Wymondley | Roadside       | 4.7                                      | -                                                               | -    | -    | 18.6 |
| NH121   | 1 Hadrians Way, Baldock                           | Roadside       | 6.2                                      | -                                                               | -    | 23.8 | 20.9 |

|       |                                                   |          |     |      |             |      |      |
|-------|---------------------------------------------------|----------|-----|------|-------------|------|------|
| NH61  | (NH53a) Whitehorse Street, Baldock (nr town hall) | Roadside | 6.3 | 30.3 | 27.7        | 27.2 | 26.8 |
| NH88  | Church St, Baldock (Opp. Town Hall)               | Kerbside | 6.3 | 39.9 | <b>40.5</b> | 34.7 | 35.7 |
| NH72  | Opp Rose Crown, Whitehorse Street, Baldock        | Roadside | 6.4 | 32.0 | 31.3        | 27.5 | 26.8 |
| NH59  | (NH04a) Clothall Road, Baldock                    | Roadside | 6.5 | 27.7 | 26.3        | 26.2 | 23.4 |
| NH123 | Dunkerley Ct, LGC                                 | Roadside | 6.5 | -    | -           | 19.0 | 19.0 |
| NH130 | Opp Old White Horse, Station Rd, Baldock          | Roadside | 6.5 | -    | -           | -    | 30.7 |
| NH122 | 29 Hopewell Rd, Baldock                           | Roadside | 6.5 | -    | -           | 21.0 | 19.6 |

Notes: Data obtained from North Hertfordshire District Council's 2021 Air Quality Annual Status Report  
Exceedences of the AQS Objectives shown in **bold text**

6.9 **Table 6.2** indicates the annual mean NO<sub>2</sub> objective of 40µg/m<sup>3</sup> was not exceeded at any diffusion tube within 6.5km of the Site in 2019. Annual mean NO<sub>2</sub> concentrations decreased from 2016 to 2019 at all NHDC diffusion tubes, where monitoring data was available.

6.10 At its nearest point, the Site is located within approximately 20m of Stevenage Borough Council's (SBC) administrative boundary. In 2019 SBC undertook NO<sub>2</sub> and PM<sub>2.5</sub> monitoring at the St Georges Way (AQMS 2) roadside automatic monitor, located approximately 4.2km south-west of the Site. The results for the St Georges Way (AQMS 2) automatic monitor are presented in **Table 6.3**.

**Table 6.3 Measured Concentrations at SBC's St George's Way Automatic Monitor**

| Pollutant         | Averaging Period                 | AQS Objective                                                     | 2018 | 2019 |
|-------------------|----------------------------------|-------------------------------------------------------------------|------|------|
| NO <sub>2</sub>   | Annual Mean (µg/m <sup>3</sup> ) | 40µg/m <sup>3</sup>                                               | 28.0 | 25.0 |
|                   | 1-Hour Mean (No. of Hours)       | 200µg/m <sup>3</sup> not to be exceeded more than 18 times a year | 0    | 1    |
| PM <sub>2.5</sub> | Annual Mean (µg/m <sup>3</sup> ) | 25µg/m <sup>3</sup>                                               | 9.0  | 9.0  |

Note: Data obtained from Stevenage Borough Council's 2021 Air Quality Annual Status Report

6.11 The monitoring results in **Table 6.3** indicate no exceedances of the AQS objectives were recorded in 2018 or 2019.

6.12 Additionally, SBC undertook NO<sub>2</sub> diffusion tube monitoring at 26 locations in 2019. The results for the 15 NO<sub>2</sub> diffusion tubes within 4km of the centre of the Site are presented in **Table 6.4**.

**Table 6.4 Measured Concentrations at NHDC diffusion tubes within 4km of Site**

| Site ID | Address                  | Classification | Approximate Distance to Site Centre (km) | Annual Mean NO <sub>2</sub> Concentrations (µg/m <sup>3</sup> ) |             |             |             |
|---------|--------------------------|----------------|------------------------------------------|-----------------------------------------------------------------|-------------|-------------|-------------|
|         |                          |                |                                          | 2016                                                            | 2017        | 2018        | 2019        |
| 4       | Bedwell Crescent         | Kerbside       | 1.2                                      | 21.5                                                            | 20.4        | 19.8        | 19.5        |
| 24      | Martins Way              | Kerbside       | 1.4                                      | 29.8                                                            | 32          | 31.4        | 30.3        |
| 26      | Vardon Road              | Roadside       | 2.7                                      | 20.8                                                            | 21.1        | 21          | 21.2        |
| 28      | Chells Way               | Roadside       | 3.0                                      | 24.2                                                            | 23          | 22.4        | 22.2        |
| 34      | A602/A1(M) Junction 7    | Kerbside       | 3.1                                      | -                                                               | <b>57.3</b> | <b>49.5</b> | <b>50.7</b> |
| 13      | Whitney Drive            | Suburban       | 3.6                                      | 22.4                                                            | 22.2        | 21.2        | 21.1        |
| 23      | Hitchin Road - Longfield | Roadside       | 3.6                                      | 36.3                                                            | 31.5        | 33.5        | 33.1        |
| 18      | Fairlands Valley Park    | Background     | 3.7                                      | 16.3                                                            | 15.3        | 14.5        | 14.3        |
| 19      | 7 Tates Way              | Roadside       | 3.7                                      | 37.0                                                            | 37.0        | 35.1        | 31.9        |
| 17      | Hitchin Road             | Roadside       | 3.7                                      | <b>44.4</b>                                                     | <b>48.6</b> | <b>42.2</b> | <b>42.7</b> |
| 7       | High Street              | Roadside       | 3.7                                      | 31.5                                                            | 30.2        | 30.5        | 29.5        |
| 21      | 13 Hitchin Road          | Roadside       | 3.7                                      | 26.5                                                            | 25.4        | 24.3        | 23.2        |
| 3       | Monks View               | Suburban       | 3.8                                      | 22.1                                                            | 22.4        | 18.7        | 20.9        |
| 38      | High Street – Costa      | Roadside       | 3.9                                      | -                                                               | -           | -           | 26.6        |
| 39      | High Street - Bike Stop  | Roadside       | 4.0                                      | -                                                               | -           | -           | 27.2        |

Note: Data obtained from the BC Annual Status Report for 2021  
Exceedances of the AQS Objectives shown in **bold text**

- 6.13 **Table 6.4** indicates the annual mean NO<sub>2</sub> objective of 40µg/m<sup>3</sup> was exceeded at two of the 15 diffusion tube monitoring locations within 4km of the Site in 2019.

## Potential Effects

### Likely Significant Effects

#### Construction

- 6.14 The likely significant effects identified for the construction phase for assessment in the ES is as follows:
- Temporary generation of dust arising from construction activities leading to potential dust nuisance to surrounding sensitive receptors.
  - Temporary changes in traffic-related emissions generated by construction vehicles and emissions from construction plant.

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## Operation

6.15 The likely significant effects identified for the operational phase for assessment in the ES is as follows:

- The effect upon existing receptors from increases in NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> concentrations from vehicle emissions generated by the operation of the Proposed Development.
- The effect upon future users of the Proposed Development due to exposure to NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> concentrations from vehicle emissions and if applicable combustion plant emissions, generated by the operation of the Proposed Development.
- The effect of the operational Proposed Development on designated nature conservation sites from vehicle emissions generated by the operation of the Proposed Development.

## Assessment Methodology

6.16 Specific consultation with the Environmental Health Officer (EHO) at NHDC would be undertaken. The air quality assessment would likely comprise the following:

- A review of air quality baseline conditions using monitoring data from NHDC and SBC air quality annual status reports;
- A qualitative assessment of the likely effects of the proposed activities during the construction phase in accordance with the IAQM's Guidance on the assessment of dust from demolition and construction<sup>2</sup>;
- Review of the local area to identify potentially sensitive receptor locations that could be affected by changes in air quality due to the Proposed Development;
- Identification of air quality sensitive receptors within the Site, to determine the air quality conditions to which future users of the Proposed Development would be exposed;
- Application of the ADMS-Roads<sup>3</sup> air quality dispersion model, using data from the project Transport Consultant to assess the likely effects of transport emissions generated by the operational Proposed Development on local air quality. The model will assess the likely effects of changes in NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> concentrations at existing sensitive receptors in proximity to

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<sup>2</sup> Holman et al (2014). IAQM Guidance on the assessment of dust from demolition and construction, Institute of Air Quality Management, London. [www.iaqm.co.uk/text/guidance/construction-dust-2014.pdf](http://www.iaqm.co.uk/text/guidance/construction-dust-2014.pdf).

<sup>3</sup> Cambridge Environmental Research Consultants Ltd (2020): 'ADMS-Roads', Version 5.0.1.3.

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the road network affected by the Proposed Development and also the exposure of NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> concentrations to future users of the Proposed Development;

- Model verification using local NHDC and SBC monitoring data;
- If applicable, use of the ADMS 5 air quality dispersion model, using data from the Building Services Engineers, to assess the likely effects of emissions from the combustion plant of the completed and operational Development;
- If the Proposed Development generates a change in Annual Average Daily Traffic flows of 1,000 vehicles, on roads within 200m of ecologically designated sites, an assessment on designated nature conservation sites<sup>4</sup> would be undertaken using ADMS Roads;
- Comparison of the predicted pollutant concentration with the Air Quality Strategy Objectives and The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023;
- Determination of the effects of the completed and operational Development on air quality, based on the application of the Environmental Protection UK and Institute of Air Quality Management<sup>5</sup> significance criteria to modelled results; and
- Formulation of appropriate mitigation and monitoring measures, where necessary. Furthermore, where significant adverse air quality effects are identified as a result of the completed and operational Development, consideration will be given to appropriate mitigation measures to safeguard sensitive receptors; and
- Identification of mitigation measures, where appropriate.

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<sup>4</sup> Holman et al (2020). A guide to the assessment of air quality impacts on designated nature conservation sites – version 1.1, Institute of Air Quality Management, London.

<sup>5</sup> Environmental Protection UK & Institute of Air Quality Management Guidance; Land-Use Planning & Development Control: Planning for Air Quality, 2017

## Receptors

**Table 6.5 Air Quality Receptors**

| Receptor                                              | Effects                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Scoped In |
|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Great Ashby residential (west and south)              | <ul style="list-style-type: none"> <li>• Temporary generation of dust arising from construction activities leading to potential dust nuisance to surrounding sensitive receptors.</li> <li>• Temporary changes in traffic-related emissions generated by construction vehicles and emissions from construction plant.</li> <li>• The effect upon existing receptors from increases in NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> concentrations from vehicle emissions generated by the operation of the Proposed Development.</li> </ul>                  | ✓         |
| Tile Kiln Farm, residential (north)                   | <ul style="list-style-type: none"> <li>• Temporary generation of dust arising from construction activities leading to potential dust nuisance to surrounding sensitive receptors.</li> <li>• Temporary changes in traffic-related emissions generated by construction vehicles and emissions from construction plant.</li> </ul>                                                                                                                                                                                                                                     | ✓         |
| Dane End residential (south-east)                     | <ul style="list-style-type: none"> <li>• Temporary generation of dust arising from construction activities leading to potential dust nuisance to surrounding sensitive receptors.</li> <li>• Temporary changes in traffic-related emissions generated by construction vehicles and emissions from construction plant.</li> </ul>                                                                                                                                                                                                                                     | ✓         |
| Future Development receptors (residential and school) | <ul style="list-style-type: none"> <li>• Temporary generation of dust arising from construction activities leading to potential dust nuisance to surrounding sensitive receptors.</li> <li>• Temporary changes in traffic-related emissions generated by construction vehicles and emissions from construction plant.</li> <li>• Effect of exposure to NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> concentrations from vehicle emissions and, if applicable, combustion plant emissions, generated by the operation of the Proposed Development.</li> </ul> | ✓         |
| Knebworth Woods SSSI or Sherrardspark Wood SSSI       | <ul style="list-style-type: none"> <li>• The effect on the Knebworth Woods SSSI or Sherrardspark Wood SSSI will be assessed if the Proposed Development generates a change in Annual Average Daily Traffic flows of 1000 vehicles or 200 heavy duty vehicles on the A1(M) within 200m.</li> </ul>                                                                                                                                                                                                                                                                    | ✓         |

## 7. TRANSPORT

### Establishing Baseline Conditions and Study Area

#### Study Area

- 7.1 Based on the Highway Scoping Note (HSN) submitted to the Highway Authority, it is proposed that the study area for the assessment of the traffic effects associated with the development of the site will include the following roads and junctions;

- Great Ashby Way / Mendip Way / Whitehorse Lane Roundabout
- Great Ashby Way / Mendip Way / Orwell Avenue
- Martins Way / Canterbury Way / Grace Way Roundabout

#### Baseline Conditions

- 7.2 Baseline conditions will be based on surveys undertaken in 2023 subject to confirmation from the LHA.

#### Residential Vehicular Trip Generation

- 7.3 During previous highway scoping for the application site it was agreed with HCC that the most accurate methodology for calculating trip generation for the Site is by counting the vehicular movements from an area of similar housing close to the development site.
- 7.4 This was previously undertaken by virtue of Mendip Way and Bray Drive forming the two points of access into the residential development of 781 dwellings. The trip rates obtained from 2017 counts are outlined in **Table 7.1**

**Table 7.1** 2017 Trip Rates for the Proposed Development of 650 dwellings and a 2 FE Primary School (without a 5% reduction applied for the primary school).

| Peak Hour        | 2017 trip rates |            |
|------------------|-----------------|------------|
|                  | Arrivals        | Departures |
| AM (08:00-09:00) | 0.17            | 0.47       |
| PM (17:00-18:00) | 0.41            | 0.20       |

- 7.5 Based on the above-mentioned trip rates, the proposed trip generation from the residential element of the Site has been calculated. From the figures presented in **Table 7.2**, it can be concluded that 650 dwellings on the site have been calculated to generate a total of 417 two-way trips during the AM peak hour, and 397 two-way trips during the PM peak hour.

**Table 7.2 Trip Generation for the Proposed Development**

| Peak Hour        | Trip Generation for 650 dwellings<br>based on 2017 Trip Rates |            |
|------------------|---------------------------------------------------------------|------------|
|                  | Arrivals                                                      | Departures |
| AM (08:00-09:00) | 111                                                           | 306        |
| PM (17:00-18:00) | 267                                                           | 130        |

- 7.6 It should be reiterated that this trip generation is based on the traffic counts from 2017, which therefore would now be out of date. The presented figures will be updated if it is agreed with the LHA that this methodology remains the most suitable.
- 7.7 Alternatively, another traditional methodology for calculating the anticipated trip generation for a proposed development is to use trip rate figures contained within the TRICS database. Trip rates are based on average traffic surveys conducted at similar sites throughout England (excluding Greater London, The Isle of Wight and The Isle of Man).
- 7.8 The trip rates outlined in **Table 7.3** below for the residential development have been extracted from the '03/M – Residential – Mixed Private / Affordable Housing' category of the TRICS database version 7.8.2. They are based on the traditional AM (08:00-09:00) and PM (17:00-18:00) peak hours respectively. The resultant trip generations are also presented in **Table 7.3**.

**Table 7.3 Trip Rates and Trip Generation for 650 Dwellings**

| Peak Hour        | Trip Rates |            | Trip Generation |            |
|------------------|------------|------------|-----------------|------------|
|                  | Arrivals   | Departures | Arrivals        | Departures |
| AM (08:00-09:00) | 0.163      | 0.383      | 106             | 249        |
| PM (17:00-18:00) | 0.353      | 0.199      | 229             | 129        |

- 7.9 Advice is currently being sought from HCC to confirm which methodology for calculating trip generation they would like to be applied to the Site.

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### 2FE Primary School and 4FE Secondary School Vehicular Trip Generation

- 7.10 A Highway Scoping Note has been prepared and submitted to the LHA regarding how the impact of the proposed schools on the Site should be assessed.
- 7.11 Conformation from the LHA to confirm which methodology should be applied to the Site to calculate trip rates is currently awaited.

### Potential Effects

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#### Likely Significant Effects

##### *Construction*

- 7.12 The likely significant effects identified for the operational phase for assessment in the ES is as follows:
- Sustainable Transport Accessibility – for the existing and future scenarios;
  - Pedestrian, cycle and public transport infrastructure improvements;
  - Appropriate levels of car parking;
  - Capacity of the local highway network; and
  - Highway safety

##### *Operation*

- 7.13 The likely significant effects identified for the operational phase for assessment in the ES is as follows:
- Disruption to road users, due to construction and operational phase vehicle activity;
  - Additional traffic from residual car driver trips;
  - Additional public transport use due to change in land use;
  - Additional walking/cycling activity due to change in land use.

#### Non-Significant Effects

- 7.14 Potential effects during construction and operation not likely to be significant and therefore proposed to be scoped out of the assessment are:
- Additional or altered walking / cycling activity;

- Additional or altered public transport use; and
- Additional or altered car parking activity.

#### Assessment Methodology

- 7.15 A Transport Assessment (TA) will be carried out to examine methods to reduce the need to travel, especially by car and to assess the residual implications of the Proposed Development on the surrounding transport network. The results of this will be summarised in the ES.
- 7.16 Transport Assessment will be completed in accordance with the DfT/DCLG publication 'Guidance on Transport Assessment' (2007), the DCLG Planning Practice Guidance "Travel Plans, Transport Assessments and Statements" (2014). Hertfordshire County Council's "Local Transport Plan 4" (2018 – 2031) and Stevenage's "Future Town, Future Transport" Strategy (2019).
- 7.17 The assessment within the ES will consider the potential significant transport effects arising from the Proposed Development, in accordance with the best practice Guidelines for the Environmental Assessment of Road Traffic (IEMA, 1993) and Department for Transport Circular 02/2013: The strategic Road Network and the Delivery of Sustainable development.
- 7.18 Various mitigation measures will be proposed to mitigate any significant adverse impacts, to include various travel management strategies, as follows:
- On-site movement strategy to promote sustainable travel choices;
  - Off-site highway network mitigation (residential trips, all modes);
  - Off-site sustainable transport improvements

#### Receptors

**Table 7.4**      **Transport Receptors**

| Receptor                | Effects                                                                                                                                                                                                                                                                                                                                                                              | Scoped In |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Impact on Traffic Flows | <ul style="list-style-type: none"> <li>• Increase in traffic, particularly during AM and PM peak hours</li> <li>• Decrease in air quality</li> <li>• Improved road connectivity due to the construction and improvement of existing highways</li> <li>• reduced driver stress as a result of enhanced road layout</li> <li>• Improvements to public transport connections</li> </ul> | ✓         |

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| Receptor                                          | Effects                                                                                                                                                                                                                                                                                               | Scoped In |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Non-motorised users e.g. pedestrians and cyclists | <ul style="list-style-type: none"><li>• Improved pedestrian and cyclist infrastructure</li><li>• New pedestrian and cyclist links to tie in with the existing network</li><li>• Promotion and increased awareness of pedestrian and cyclist infrastructure within the vicinity of the site.</li></ul> | ✓         |

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## 8. NOISE AND VIBRATION

### Establishing Baseline Conditions and Study Area

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#### Study Area

- 8.1 The study area for the noise and vibration assessment comprises an area of approximately 300m around the Site, as defined in DMRB LA111 paragraph 3.5 Note 1, on the basis that “*a study area of 300m from the closest construction activity is normally sufficient to encompass noise sensitive receptors*”. It should be noted that assessment is only undertaken on the nearest sensitive receptors to the Site in the various cardinal directions. This is on the basis that if effects are considered acceptable for the nearest sensitive receptors, it should automatically be the case for those located at greater distance. It also extends to include key linkages within the local highway network which have the potential to be affected by traffic associated with the Development. At these local highway network locations, the study area is 50m from the kerb line as defined in DMRB LA111 paragraph 3.8.
- 8.2 The baseline year of 2023 is used in the noise and vibration assessment of construction related impacts and effects and to inform operational fixed external plant noise limits. The completed development year of 2030 is used in the assessment of operational road traffic noise associated with the Development.

#### Baseline Conditions

- 8.3 Prevailing baseline conditions will be established through baseline survey, the strategy of which will be agreed in principle with Environmental Health of NHDC in advance of the survey. Notwithstanding this, based on available information (Extrium Noise Maps and Officer's Report on EIA Screening Opinion Report), it is anticipated that prevailing noise levels at and within the vicinity of the Site will be relatively low ( $\leq 55\text{dB } L_{Aeq,16h}$  day and  $\leq 45\text{dB } L_{Aeq,8h}$  night), but this will be confirmed through results of the baseline survey.
- 8.4 The baseline noise climate is expected to comprise of distant road traffic noise, occasional aircraft noise and localised noise from farming operations.

### Potential Effects

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#### Likely Significant Effects

##### Construction

- 8.5 The likely significant effects identified for the construction phase for assessment in the ES is as follows:

- 
- Temporary noise and vibration disturbance to existing sensitive receptors surrounding the Site as a result of construction works;
  - Temporary noise and vibration disturbance resulting from the physical processes of the construction works to future residents of the earlier phases of the Development (i.e. those living on the Site ahead of the completion of the entire Development); and
  - Temporary noise effects resulting from changes in road traffic flows during the construction phase.

#### *Operation*

8.6 The likely significant effects identified for the operational phase for assessment in the ES is as follows:

- Permanent change in road traffic noise levels at existing sensitive receptors as a result of the Development once completed and operational; and
- Noise generated from new proposed building services plant, non-residential uses and public open space forming a part of the completed and operational Development on existing noise sensitive receptors surrounding the Site.

#### **Non-Significant Effects**

8.7 There are no significant sources of vibration that would be introduced as part of the Development. Accordingly, the assessment of vibration in relation to the completed and operational Development can be scoped out of the EIA and the ES.

8.8 It should be noted that the determination of the acceptability of internal noise and vibration levels within the Development itself is considered a design issue. On this basis, such issues together with assessment of the suitability of the site for residential or school amenity, will not be dealt with as part of the EIA process. Based on available information and the anticipation of low prevailing noise levels, baseline noise conditions are unlikely to be a constraint to residential and school development at this rural location.

#### **Assessment Methodology**

8.9 The noise and vibration assessment methodology will incorporate the following:

- Identification of the existing and future potentially noise and vibration sensitive receptors within and surrounding the Site;
- Baseline daytime and night-time noise monitoring at appropriate locations at the Site boundaries. The monitoring protocol and locations will be agreed in advance with the Environmental Health

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at NHDC, and the survey will be carried out in line with the guidance provided in BS 7445:2003 'Description and Measurement of Environmental Noise'<sup>6</sup>;

- Assessment of temporary noise and vibration effects during the construction works, in line with BS 5228-1:2009+A1:2014<sup>7</sup> 'Noise and Vibration Control on Construction and Open Sites Part 1 - Noise' and BS 5228-2:2009+A1:2014<sup>8</sup> 'Part 2 - Vibration';
- Assessment of the likely significant effects of changes in road traffic noise levels resulting from traffic generated during the construction phase but also by the completed and operational Development upon existing sensitive receptors surrounding the Site. The calculations will be carried out in accordance with the Calculation of Road Traffic Noise (CRTN) memorandum<sup>9</sup> with assessment against the significance criteria detailed within the Design Manual for Roads and Bridges (DMRB) LA111<sup>10</sup>;
- Specification of appropriate noise limits to which future on-Site plant installations, should not exceed. These limits will be based on surveyed ambient ( $L_{Aeq}$ ) and background ( $L_{A90}$ ) representative noise levels at local sensitive receptors, the guidance contained in BS 4142:2019<sup>11</sup> and the requirements of NHDC; and
- Where likely significant adverse effects from any of the aforementioned sources are identified, consideration will be given to appropriate mitigation measures in safeguarding amenity and ensuring compatibility with adjoining land uses.

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<sup>6</sup> British Standards Institute, (2003). BS 7445-1:2003 Description and measurement of environmental noise. Guide to quantities and procedures. BSI.

<sup>7</sup> British Standards Institute, (2014) BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites. Part 1 - Noise. BSI

<sup>8</sup> British Standards Institute, (2014) BS 5228-2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites. Part 2 -Vibration. BSI

<sup>9</sup> Department of Transport, (1988). Calculation of Road Traffic Noise (CRTN), HMSO, London.

<sup>10</sup> Highways Agency, (2020). Design Manual for Roads and Bridges (DMRB) Sustainability & Environment Appraisal LA111 – Noise and Vibration Version 2.

<sup>11</sup> British Standards Institute, (2019). BS4142: 2014+A1:2019 Methods for rating and assessing industrial and commercial sound. BSI.

## Receptors

**Table 8.1 Noise & Vibration Receptors**

| Receptor                                              | Effects                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Scoped In |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Great Ashby residential (west and south)              | <ul style="list-style-type: none"> <li>Temporary noise and vibration disturbance from construction works and construction traffic. This may result in residents closing windows to reduce disturbance and requirement for enhanced Construction Environmental Management Plan (CEMP) mitigation measures.</li> <li>Permanent changes in road traffic noise due to traffic generated by Proposed Development. A gradual increase of up to 3dB is not however normally discernible and acceptable depending on absolute noise levels.</li> <li>Permanent noise from operational fixed external plant may cause disturbance which may result in residents closing windows and /or sleep disruption.</li> </ul> | ✓         |
| Tile Kiln Farm, residential (north)                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ✓         |
| Dane End residential (south-east)                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ✓         |
| Future Development receptors (residential and school) | <ul style="list-style-type: none"> <li>Temporary noise and vibration disturbance from construction works. This may result in residents closing windows to reduce disturbance and requirement for enhanced Construction Environmental Management Plan (CEMP) mitigation measures.</li> <li>Permanent noise from operational fixed external plant may cause disturbance which may result in residents closing windows and /or sleep disruption.</li> </ul>                                                                                                                                                                                                                                                    | ✓         |

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## 9. ECOLOGY

### Establishing Baseline Conditions and Study Area

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#### Study Area

- 9.1 This Scoping Report has been prepared by CSA Environmental on behalf of the Applicant
- 9.2 The study area covers the entire Site.
- 9.3 Ecological data collected on-site, along with an update desk study and data search results from Hertfordshire Environmental Records Centre (HERC) obtained by CSA Environmental in 2023 will be used to inform the baseline conditions at the Site. The results of previous survey work undertaken by ELMAW Consulting (2016-2020) will also be reviewed and incorporated into the overall understanding of the baseline conditions at the Site.

#### Baseline Conditions

- 9.4 The Site comprises c. 53.5ha of land, dominated by arable fields bounded by hedgerows and trees. Historical imagery shows that the fields have been in arable cultivation for at least the last 23 years. There are three entire and part of a fourth, woodland blocks within the Site, including New Spring Wood, Nine Acre Spring, Longdell Wood and part of Brooches Wood. A woodland survey will be carried out to confirm the status of these wooded areas.
- 9.5 The Site does not lie within or near a 'sensitive area' as defined by Regulation 2 of the EIA Regulations and there are no statutory designations covering any part of the Site. Two non-statutory designations lie within the Site boundary. New Spring Wood Local Wildlife Site (LWS) - This designation is described as a c. 1.0ha ancient woodland supporting ancient woodland indicators such as bluebell *Hyacinthoides non-scripta* and is shown on Bryant's map (1822). The other non-statutory designation which lies within the Site boundary is Brooches Wood LWS. Two further LWSs are located adjacent to the Site boundary - Tilekiln Wood & Parsonsgreen Wood LWS, and Claypithlls Spring Wood LWS. All of these designations are also comprised of areas of ancient and semi-natural woodland.
- 9.6 Woodland surveys for the Site will be undertaken and the results will be confirmed within the Environmental Statement.
- 9.7 At least seven bats species have been recorded at the Site. The majority of bat activity recorded was from common pipistrelle *Pipistrellus pipistrellus* and soprano pipistrelle *Pipistrellus pygmaeus* bats. In addition, small numbers of noctule *Nyctalus noctula*, brown long-eared bat *Plecotus auritus*, Daubenton's bat *Myotis daubentonii*, Barbastelle bat *Barbastella barbastellus* and Leisler's bats *Nyctalus leisleri* have also been recorded at the Site. Potential roosting habitat is concentrated within

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the woodlands within and adjacent to the Site, and the site offers extensive commuting and foraging opportunities along the boundary hedgerows and woodland edges. A number of mature on-site trees have been identified as having moderate-high bat roosting potential.

9.8

[REDACTED]

9.9

The locally rare hazel dormouse *Muscardinus avellanarius* was recorded on the Site in 2008. At this time, surveys identified dormouse nests within New Spring Wood and a single hedgerow to the north of this woodland. Survey work undertaken since 2008 have failed to confirm the presence of dormouse at the site, however, given that this species typically live at very low densities, it is possible that this population persists in very low numbers.

9.10

The site supports a number of bird species, with the arable land, hedgerows and woodland blocks providing a diverse range of habitat for foraging and nesting. Bird species of conservation concern recorded on-site include skylark *Alauda arvensis*, mistle thrush *Turdus viscivorus*, song thrush *Turdus philomelos*, yellowhammer *Emberiza citrinella*, dunnock *Prunella modularis* and linnet *Carduelis cannabina*.

## Potential Effects

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### Likely Significant Effects

#### Construction

- [REDACTED]
- [REDACTED]
- **Construction of up to c. 600 residential dwellings with supporting infrastructure, associated gardens, parking, access infrastructure, Public Open Space, play areas, Sustainable Urban Drainage Systems (SUDS) and school (with associated infrastructure):** Temporary noise, vibration, lighting during construction has the potential to affect all protected species. [REDACTED]

#### Operation

- 
- **Occupation of new residential dwellings, including the increase in human activity, including use of vehicles and presence of domestic pets:** Increased anthropogenic noise, artificial lighting, vehicles, human disturbance and presence of domestic pets (namely cats and dogs) has the potential to affect the normal foraging, commuting, and breeding behaviour of all protected species at the Site. There will be likely increases in footfall within LWSs (on-site and adjacent woodlands), along with increased disturbance (to both flora and fauna) by dogs in these areas. Predation by cats in woodlands and areas of Public Open Space may also increase small mammal predation in the area.

#### Assessment Methodology

- 9.11 Ecological features are evaluated and assessed in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) 2018 Guidelines for Ecological Impact Assessment (EcIA).
- 9.12 Ecological features are assessed where they are considered to be important, and where they may be impacted by a proposed development. Features may be considered important for a variety of reasons, such as quality, extent, rarity and/or statutory protection. Features that are typically considered include: Statutory designated sites under international conventions, European and national legislation; non-statutory, locally designated wildlife sites; national biodiversity lists; local biodiversity lists; red listed/rare Species; and legally protected/controlled species. (It should also be noted that the social, community, economic or multi-functional importance attributed to ecological features are not assessed as they fall outwith the scope of this assessment.)
- 9.13 The 'zone of influence' for a project is the area over which ecological features may be subject to significant effects as a result of the project and associated activities and varies across different ecological features, which have different vulnerabilities and sensitivities. For the purposes of this assessment, the following zones were considered: International statutory nature conservation designations up to 10km from the Site; national and local statutory nature conservation designations up to 3km from the Site; and non-statutory locally designated wildlife sites up to 1km from the Site. (These arbitrary distances are considered sufficient for identifying the nature conservation designations which could be subject to significant effects. However, it is acknowledged that in certain circumstances effects beyond these distances are possible and should be considered as far as is reasonably practicable to do so.)
- 9.14 The size, conservation status and the quality of features are all relevant in determining their importance and assigning this to a geographic scale. Impacts and their effects are taken to be significant where they support or undermine biodiversity conservation objectives, with the scale of significance defined according to geographic context. Where the importance of a feature is considered to fall below the Local scale, they are scoped out of detailed assessment.

9.15 Where likely significant ecological impacts and effects are identified in connection with the proposed project, these are considered and described with reference to the following characteristics: Positive or negative (i.e. does the anticipated change accord with nature conservation policies and objectives?); extent (i.e. the spatial area over which the impact or effect may occur); magnitude (i.e. the quantified size, amount, intensity or volume); duration (i.e. the timeframe over which the impact or effect may occur, in both human and ecological terms); frequency and timing (i.e. the number of times an activity occurs, where this is likely to influence the effect); and reversibility (i.e. is spontaneous recovery possible or may the effect be counteracted by mitigation?).

## Receptors

### Table 9.1 Ecological Receptors

| Receptor             | Effects                                                                                                                                                                               | Scoped In |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Local Wildlife Sites | <ul style="list-style-type: none"> <li>Increased human activity/recreational pressure</li> <li>Increased pressures from domestic pets (dog walking/fouling, cat predation)</li> </ul> | ✓         |
| Bats                 | <ul style="list-style-type: none"> <li>Potential effects to flight lines, foraging and roosting opportunities</li> </ul>                                                              | ✓         |
| [REDACTED]           | <ul style="list-style-type: none"> <li>[REDACTED]</li> </ul>                                                                                                                          | ■         |
| Dormouse             | <ul style="list-style-type: none"> <li>Potential removal/disturbance of suitable dispersal, foraging and nest building habitat</li> </ul>                                             | ✓         |
| Nesting birds        | <ul style="list-style-type: none"> <li>Potential removal of nesting and foraging opportunities</li> </ul>                                                                             | ✓         |

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## 10. LANDSCAPE AND VISUAL IMPACT

### Establishing Baseline Conditions and Study Area

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#### Study Area

- 10.1 The Guidelines for Landscape and Visual Impact Assessment Third edition (GLVIA3) defines the purpose of the landscape Study Area as the area which the Proposed Development may influence in a significant manner. The visual study is defined by the area across which the Proposed Development is potentially visible, and the individuals or groups of people who may be significantly affected by changes in the composition of their views.
- 10.2 GLVIA3 sets out that at the scoping stage, the Study Area will be defined in a preliminary way and this is likely to be modified as work progresses, for example as a result of fieldwork, or changes to the proposal.
- 10.3 The Proposed Development may significantly affect the Landscape Character Areas within which it is located. The Site lies within the Thames Basin Heaths National Character Area (NCA 86). This is a broad-scale national assessment, and not suitable for this Landscape and Visual Impact Assessment ('LVIA'), but it will be reviewed to provide context. The North Herts Landscape Study - Character, Sensitivity and Capacity (2011) describes local landscape character, and provides a level of detail appropriate to the scale of the Proposed Development. As such, this will be used as a baseline for further assessment.
- 10.4 The Zone of Theoretical Visibility ('ZTV') Study Area was set at a distance of 5km from the Site (see Figure 10.5), as is common practice with proposals of this nature and scale (see Assessment Methodology in **Appendix A3**). Following the on-site assessment of visibility, this was able to be further refined to a distance of approximately 2km from the Site, given the surrounding vegetation, topography and built form.
- 10.5 The winter fieldwork undertaken on 1st March 2023 showed that the visibility of the Site varies across the area due to undulating topography, and intervening vegetation and buildings. As such, the preliminary Study Area extends up to 2km from the Site boundary (Figure 10.1 in **Appendix A5**) to cover:
- **To the north:** Southern part of Weston located approximately 1.5km from the Site;
  - **To the east:** Bridleway CLOTHALL 012 to the west of Luffenhall, located approximately 2.2km from the Site;

- 
- **To the south-east:** footpath WALKERN 034 west of Walkern, located approximately 1.6km from the Site;
  - **To the south:** Box Wood located approximately 0.8km from the Site;
  - **To the south-west:** north-eastern edge of Stevenage adjacent to the Site; and
  - **To the west:** Manor Farm located approximately 0.9km from the Site.

10.6 The assessment will be undertaken for the:

- Peak construction activity in winter;
- Year 1 operation in winter; and
- Year 15 of the operation in summer presenting the established proposed planting.

#### **Local Planning Policy Context**

10.7 The following local planning policies are relevant to the Proposed Development and landscape from the adopted North Hertfordshire Local Plan 2011-2031:

- Policy SP1: Sustainable development in North Hertfordshire;
- Policy SP5: Countryside and Green Belt;
- Policy SP9: Design and Sustainability ;
- Policy SP12: Green infrastructure, landscape and biodiversity;
- Policy SP18: Site GA2 – Land off Mendip Way, Great Ashby;
- Policy NE1: Strategic green infrastructure;
- Policy NE2: Landscape; and
- Policy NE6: New and improved open space.

10.8 The Local Plan sets out strategic objectives which provide the link between the vision for the District and the strategic policies set out in the Local Plan. The ones relevant to this assessment include:

- ENV 2 Protect and enhance the historic character of North Hertfordshire's towns, villages, hamlets and landscape by promoting good design that creates a distinctive sense of place.

- 
- ENV 3 Protect, maintain and enhance the District's historic and natural environment, its cultural assets, and network of open spaces, urban and rural landscapes.

### **Baseline Conditions**

- 10.9 This section provides an overview of the landscape and visual features and characteristics across the preliminary LVIA Study Area.
- 10.10 The Site has a complex topography which determines the level of containment of the Site within the context of the wider landscape. To the north the landscape is relatively flat, gently falling to the south-east. In this part of the Study Area, the intervening vegetation and numerous clumps of woodland screen the Site from wider views. To the south and east, strongly undulating topography creates more opportunities for views from the higher slopes. In this case, the intervening vegetation also limits the views across the Site.
- 10.11 There is a large network of Public Rights of Way ('PRoW') across the Study Area and the Site, including the Hertfordshire Way Long Distance Route. There are views across the Site from PRoWs adjoining and crossing the Site. However, the clumps of woodland within the Site and hedgerows provide screening, so the Site is never visible in full extent. Instead, only part of the Site can be viewed from one location.
- 10.12 Based on the desk top study and Site visit, a series of potential visual receptors have been identified, including residents, recreational users of PRoW, and road users. The location of representative viewpoints are shown on Figure 10.6 ZTV with Screens in **Appendix A5**. Photographs recording the views from the representative viewpoints will be presented in line with Landscape Institute Technical Note 06/19: Visual Representation of Development Proposals.
- 10.13 The Site is not covered by any landscape designations (i.e. National Park or Area of Outstanding Natural Beauty). However, there are other designations which may influence the value and quality of landscape, such as Ancients Woodland and Listed Buildings. The relevant designations within the Site and the Study Area are shown on Figure 10.3 in **Appendix A5**.
- 10.14 The Aerial Photograph in Figure 10.2 of **Appendix A5** shows the character of the Site and surroundings.

### **Published Landscape Character Assessments**

- 10.15 The following section provides an overview of the published character assessment relevant to this assessment.
- 10.16 **National Landscape Character Assessment**

- 
- 10.17 Natural England has produced profiles for England's National Character Areas ('NCAs'), which divides England into 159 distinct natural areas, defined by a unique combination of landscape, biodiversity, geodiversity and cultural and economic activity. The Site lies within the South Suffolk and North Essex Clayland National Character Area (NCA 86). The extract of the NCA is included in the **Appendix A4**.
- 10.18 **The North Herts Landscape Study- Character, Sensitivity and Capacity (2011)**
- 10.19 The Site and the Study Area are located within several Landscape Character Areas ('LCA') identified in the study, as shown on Figure 10.4 in the **Appendix A5**. The Site falls within two LCAs: to the north-west the Site is located within LCA 220 Weston Plateau Parklands, and to the south-east the Site is located within LCA 39: Middle Beane Valley. The Study Area includes LCA 221 Upper Beane Valley Tributaries to the east and LCA 219: Baldock Gap to the west. The extract of the studies describing the character of the LCAs is included in the **Appendix A4**.
- 10.20 LCA 222 Weston – Green End Plateau is located at the northern peripheries of the Study Area and is considered to be too far away to result in significant landscape effects. As such, the LCA is scoped out from further assessment.

## **Potential Effects**

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### **Likely Significant Effects**

- 10.21 The likely significant effects identified for the construction and operational phase for assessment in the ES is set out below.
- 10.22 Likely significant effects are expected on the character of the Site itself and its immediate surroundings.
- 10.23 Likely significant effects are expected on the following visual receptors:
- recreational users of PRoW within the Site;
  - recreational users of PRoW within 500m buffer from the Site; and
  - residents in close proximity to the Site (Tilekiln Farm, Dane End, Great Ashby).

### **Table 1.3 Assessment Methodology**

- 10.24 The landscape and visual chapter will consider the effects of the Proposed Development on landscape and visual receptors. It will consider the degree of change to the existing landscape character, and the potential effects of the Proposed Development on visual receptors. Mitigation will be embedded into the proposed scheme in response to this assessment, and these, and further

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mitigation measures, will be described, and the effects of the Proposed Development at completion and after 15 years will be considered.

10.25 The overall scope of the assessment will involve the determination of:

- Landscape and visual impact assessment methodology and significance criteria;
- Zone of Theoretical Visibility ('ZTV') to determine location of representative viewpoints;
- A photographic record will be provided of key views in winter and summer. This includes three photomontages (from viewpoint 9, 17 and 25), specified as 'Type 3' in accordance with Landscape Institute Technical Guidance Note 06/19: Visual Representation of Development Proposals;
- Baseline studies, including assessment of existing landscape character and published documents on local landscape character, and the identification of existing visual receptors and the composition of their current view;
- Review of development proposals and proposed mitigation measures;
- Assessment of the impact of the Proposed Development on existing landscape character, both within the Site itself and within the neighbouring area;
- An assessment of the effects of the Proposed Development on existing landscape assets, such as vegetation, water bodies etc.
- Assessment of visual impacts of the Proposed Development on the visual amenity of the visual receptors.
- Landscape and visual impact assessment at Year 1 and Year 15 (residual effects) from completion;
- Commentary on construction (temporary) effects; and
- Commentary on cumulative effects of the Site in relation to surrounding consented schemes.

10.26 A more detailed description of the assessment methodology is provided in **Appendix A3**

## Receptors

**Table 10.1 Landscape and Visual Receptors**

| Receptor                                | Representative Viewpoint | Effects                                                                                                                                             | Scoped In |
|-----------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>Landscape Receptors</b>              |                          |                                                                                                                                                     |           |
| The Site                                |                          | Direct impacts on the landscape character.                                                                                                          | ✓         |
| LCA 39: Middle Beane Valley             |                          | Direct impacts on the landscape character.                                                                                                          | ✓         |
| LCA 220: Weston Plateau Parklands       |                          | Direct impacts on the landscape character.                                                                                                          | ✓         |
| LCA 219: Baldock Gap                    |                          | Indirect impacts on the landscape character.                                                                                                        | ✓         |
| LCA 221: Upper Beane Valley Tributaries |                          | Indirect impacts on the landscape character.                                                                                                        | ✓         |
| LCA 222: Weston – Green End Plateau     |                          | LCA located at the northern edges of the Study Area with no potential for significant effects as a result of the Proposed Development – scoped out. | x         |
| <b>Visual Receptors</b>                 |                          |                                                                                                                                                     |           |
| Residents of Great Ashby North          | VP 21                    | Potential for changes in the view experienced by the residents.                                                                                     | ✓         |
| Residents of Great Ashby South          | VP 15                    |                                                                                                                                                     | ✓         |
| Residents of Tilekiln Farm              | VP 25- Photomontage      |                                                                                                                                                     | ✓         |
| Residents of Dane End                   | VP 17 - Photomontage     |                                                                                                                                                     | ✓         |
| Residents of Howells Farm               | VP 8                     |                                                                                                                                                     | ✓         |
| Residents of Hall's Green               | VP 6                     |                                                                                                                                                     | ✓         |
| Residents of Warren's Green             | VP 3                     |                                                                                                                                                     | ✓         |
| Residents at Weston Park                | VP 2                     |                                                                                                                                                     | ✓         |

| Receptor                                                                                                           | Representative Viewpoint                               | Effects                                                                              | Scoped In |
|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------|-----------|
| Residents of Weston                                                                                                | VP 1                                                   |                                                                                      | ✓         |
| Residents of Manor Farm                                                                                            | VP 27                                                  |                                                                                      | ✓         |
| Residents of Leatherwells                                                                                          | VP 9 - Photomontage                                    |                                                                                      | ✓         |
| Residents of Walkern                                                                                               | N/A                                                    | Settlement located in the valley, lack of intervisibility with the Site – scoped out | x         |
| Residents of Luffenhall                                                                                            | N/A                                                    | Settlement located in the valley, lack of intervisibility with the Site – scoped out | x         |
| Recreational users within the perimeter of the Site<br>(PRoW WESTON - 46,29, 26, 44, 33, 31 and Hertfordshire Way) | VP 23, VP 18, VP 17, VP 14, VP 16, VP 19, PV 20, VP 22 | Potential for changes in the view experienced by the residents.                      | ✓         |
| Recreational users of Hertfordshire Way                                                                            | VP 27, VP 26, VP 25, VP 24, VP 23, VP 3, VP 2.         |                                                                                      | ✓         |
| Recreational users within Weston Park                                                                              | VP 2                                                   |                                                                                      | ✓         |
| Recreational users to the north of the Site<br>(Graveley 9, 5 and Weston 17, 18,40)                                | VP 30, VP 29, VP 28, VP 27                             |                                                                                      | ✓         |
| Recreational users to the east of the Site (PRoW 34, 32, 35, 24, 28)                                               | VP 5, VP 6, VP 8, VP 7, PV 10                          |                                                                                      | ✓         |
| Recreational users to the south of the Site (PRoW Walkern 22, 33, 34, 25,42,26)                                    | VP 11, VP 12, VP 13                                    |                                                                                      | ✓         |

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| Receptor                    | Representative Viewpoint | Effects                                                                     | Scoped In |
|-----------------------------|--------------------------|-----------------------------------------------------------------------------|-----------|
| Drivers on Warrengreen Lane | VP 4                     | Potential changes in the composition of the view experienced by the drivers | ✓         |
| Drivers on Back Lane        | VP 26                    |                                                                             | ✓         |
| Drivers on Dane End Lane    | VP 9, VP10               |                                                                             | ✓         |

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## 11. WATER ENVIRONMENT AND FLOOD RISK

### Establishing Baseline Conditions and Study Area

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#### Study Area

- 11.1 The study area will be confined to the Site itself and the Thames Water foul drainage network into which foul water flows from the Site will discharge.
- 11.2 The baseline year of the assessment will be 2023.

#### Baseline Conditions

- 11.3 The Environment Agency's (EA) indicative online flood maps for the site show that the site is located entirely within Flood Zone 1. The site is therefore considered to have less than a 1 in 1,000 year probability of flooding from rivers and the sea.
- 11.4 The EA flood maps also confirm that the site is not considered to be at risk of flooding from reservoirs.
- 11.5 The EA flood maps show that the majority of the site is not at risk of flooding from surface water flooding. There is a small amount of surface water flooding shown adjacent to the watercourse within the site. There are also a few minor surface water flow routes within the site that follow the natural low points.
- 11.6 Following the development of the Site, the surface water flows that emanate on the site will be managed and incorporated within the formal drainage strategy. Where necessary flow paths will be kept free from built development.
- 11.7 The Site Investigation Report that has been undertaken by Geotechnical and Environmental Associates Limited (GEA) confirms that beneath a normal thickness of made ground, superficial deposits were encountered over the Lewes Nodular Chalk Formation and Seaford Chalk Formation. The made ground comprised dark brown silty sandy clay with gravel and rootlets, and extended to depths between 0.10 and 0.50m. The superficial deposits generally comprised firm to stiff brown to orange-brown and reddish brown slightly sandy clay with variable fine to coarse subangular to subrounded chalk and flint gravel. The proportion of chalk gravel generally increased with depth. These deposits extend to depths of between 0.8m and 7.0m.
- 11.8 Groundwater was not encountered during drilling on the Site.
- 11.9 Contamination testing has indicated that the samples tested are free from any contaminants.

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## Potential Effects

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### Likely Significant Effects

#### *Construction*

11.10 The likely significant effects identified for the operational phase for assessment in the ES is as follows:

- Discharge of general construction site runoff.

#### *Operation*

11.11 The likely significant effects identified for the operational phase for assessment in the ES is as follows:

- Impact on Thames Water foul water network associated with increased demand from the proposed development.
- Changes to the surface water drainage regime and potential risk of surface water flooding to the site or downstream.

### Non-Significant Effects

11.12 Potential effects during construction and operation that are not likely to be significant and therefore proposed to be scoped out of the assessment are:

- Impact on foul water network. Capacity checks will be undertaken by Thames Water and any reinforcement works that are required either to the piped drainage network or at the receiving treatment works will be undertaken prior to the discharge of flows from the site to the network.
- Surface water flood risk, flows will be managed, attenuated and discharged at a restricted rate in accordance with agreements made with the Local Authority.
- Any existing surface water flow routes will either be incorporated into the proposed drainage network or kept free from built development.

### Assessment Methodology

11.13 A Site Investigation has been undertaken by GEA to determine whether the underlying conditions on the Site are suitable for drainage via infiltration.

11.14 At this early stage of the development of the drainage strategy it is considered likely that the majority of the site will not be suitable for drainage via traditional soakaways. It will therefore be proposed

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that surface water is attenuated onsite and discharged to the watercourse that crosses the site at the calculated greenfield rate.

- 11.15 The surface water drainage strategy will incorporate a range of sustainable drainage systems such as swales, permeable paving and attenuation basins.
- 11.16 The strategy will ensure that surface water is treated such that it is an acceptable quality prior to discharge.
- 11.17 Thames Water have been commissioned to undertake a Pre-Planning Assessment Report to determine if there is sufficient capacity within the foul water network to accommodate the proposed development.

### Receptors

**Table 11.1 Water Environment and Flood Risk Receptors**

| Receptor                            | Effects                                                                                                                                             | Scoped In |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Watercourse within the site.        | <ul style="list-style-type: none"><li>• Surface water runoff during construction</li><li>• Surface Water runoff during occupation of site</li></ul> | ✓         |
| Thames Water Foul Sewerage Network. | <ul style="list-style-type: none"><li>• Foul Water flows from the occupied development</li></ul>                                                    |           |

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## 12. ARCHAEOLOGY

### Establishing Baseline Conditions and Study Area

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#### Study Area

- 12.1 The Site is located immediately northeast of the parish of Great Ashby within Stevenage.
- 12.2 The Site lies within an Area of Archaeological Significance which highlights the potential for archaeological remains, particularly associated with later prehistoric and early medieval settlement in Hertfordshire. There are a number of Areas of Archaeological Significance across North Hertfordshire which, although not nationally recognised or designated, are considered to be of local importance<sup>12</sup>.

#### Baseline Conditions

- 12.3 The historic settlement pattern is characterised by sparse settlement consisting of estates and scattered farmsteads<sup>13</sup>.
- 12.4 The site does not contain any nationally designated (protected) heritage assets, such as scheduled monuments, listed buildings or registered parks and gardens.
- 12.5 Immediately adjacent to the northwest of the Site, there are Grade II Listed Buildings at Tile Kiln Farm<sup>14</sup>.
- 12.6 A high-level review of the Study Area and the Hertfordshire Historic Environment Record indicates several undesignated heritage assets recorded within the Site Outline and also in close proximity to the Site, including prehistoric finds and features, Roman pottery, potential evidence of medieval occupation and post-medieval agricultural activity. Early post-medieval historic maps and cartographic sources show the site lying within undeveloped arable and pasture fields.
- 12.7 Two known archaeological investigations have taken place on the Site to date. Trial trench evaluation works undertaken in 2007 uncovered a medieval landscape, with a potential settlement focus. Isolated late Iron Age to early Roman cut features were also recorded<sup>15</sup>.

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<sup>12</sup> North Hertfordshire Local Plan 2011-2031

<sup>13</sup> North Hertfordshire and Stevenage Landscape Character Assessment 2011

<sup>14</sup> <https://historicengland.org.uk/listing/the-list/list-entry/1102483>

<sup>15</sup> Oxford Archaeology, 2008, Tile Kiln Farm Stevenage, Archaeological Evaluation Report

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- 12.8 A fluxgate gradiometer survey was carried out across the Site in 2022, covering an area of 45.65ha<sup>16</sup>. A series of linear and curvilinear anomalies were identified across the survey area, along with additional discrete anomalies. An undetermined classification was given to these, and whilst a more conclusive classification cannot be determined using geophysics data alone, an archaeological, agricultural or natural origin cannot be ruled out.
- 12.9 In areas of the Site unaffected by modern activity or truncation, there is higher potential for the survival of buried archaeological assets. There is no indication that the area has been adversely affected by modern development, which would suggest archaeological survival to be generally good across the Site.
- 12.10 To ensure a detailed understanding of the designated and undesignated heritage assets both within the Site of the Proposed Development, and the associated Study Area, a detailed Archaeological Desk-Based Assessment will be undertaken by a suitably qualified archaeologist in line with the ClfA standards and guidance<sup>17</sup>. A programme of trial trenching will be carried agreed via a Written Scheme of Investigation, a method statement including a specification for works agreed with Hertfordshire County Council's Senior Historic Environment Advisor.
- 12.11 The following sources will be consulted in the production of the Desk-Based Assessment:
- Hertfordshire Historic Environment Record (HER) Data detailing the results of previous archaeological investigations on the Site and in the surrounding Study Area. The HER Data was obtained on 07/03/2023 (Hertfordshire HER Request number: 221.22).
  - Historic England - Information on statutory Designated Assets data including Scheduled Ancient Monuments, Listed buildings, and any identified Heritage at Risk.
  - Groundsure - Ordnance Survey (OS) maps from their historic first edition through to modern OS mapping. Earlier historic maps will also be consulted where available.
  - British Geological Survey (BGS) - Solid and Drift geology digital mapping and geological borehole data where applicable.

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<sup>16</sup> Magnitude Surveys, 2022, Geophysical Survey Report of Land Northeast of Stevenage, Hertfordshire

<sup>17</sup> Chartered Institute for Archaeologists (ClfA), 2014, Standard and Guidance for Historic Environment Desk-Based Assessment.

- Site Reports – Geophysical survey data and the results of previous trial trenching on the Site, along with the reports on past archaeological investigations within the in the immediate Study Area will be reviewed, which will also take into account results of the evaluation trial trenching.
- Details of the Proposed Development - Existing and proposed site plan, topographical survey, contamination report, existing site services and utilities report

## Potential Effects

### Likely Significant Effects

#### Construction

- 12.12 There is the potential for the construction effects of the Proposed Development to result in a high magnitude of change to any archaeological assets located on the Site. Intrusive works are projected to include a comprehensive redevelopment of the Site to provide a residential-led development.
- 12.13 Effects to archaeological assets that may survive on the Site are limited to the construction phase activity. Once operational, the Proposed Development is not anticipated to have any significant effects on archaeological remains.

### Assessment Methodology

- 12.14 The level of impact on archaeological heritage receptors will be fully assessed within an Archaeological Desk-Based Assessment.
- 12.15 The decision on any archaeological requirements lies with the Archaeological Advisor to the Local Planning Authority. The Archaeological Advisor will be consulted at all stages to ensure an appropriate course of action is taken.
- 12.16 In view of the above, likely significant effects relating to archaeology are expected and archaeology can be scoped into of the ES.

## Receptors

**Table 12.1 Archaeology Receptors**

| Receptor            | Effects                                                                                                                                                                                                                                      | Scoped In |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Prehistoric Remains | <ul style="list-style-type: none"> <li>• Construction phase works such as service trenches and foundations, along with associated below ground impacts and landscaping has the potential to effect buried archaeological remains.</li> </ul> | ✓         |

| Receptor              | Effects                                                                                                                                                                                                                                    | Scoped In |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Roman Remains         | <ul style="list-style-type: none"> <li>Construction phase works such as service trenches and foundations, along with associated below ground impacts and landscaping has the potential to effect buried archaeological remains.</li> </ul> | ✓         |
| Medieval Remains      | <ul style="list-style-type: none"> <li>Construction phase works such as service trenches and foundations, along with associated below ground impacts and landscaping has the potential to effect buried archaeological remains.</li> </ul> | ✓         |
| Post-medieval Remains | <ul style="list-style-type: none"> <li>Construction phase works such as service trenches and foundations, along with associated below ground impacts and landscaping has the potential to effect buried archaeological remains.</li> </ul> | ✓         |

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## 13. CUMULATIVE EFFECTS

13.1 The EIA Regulations specify the information to be included in an ES (Schedule 4) and require that in assessing the effects of a particular development, consideration should be given to cumulative effects. Potential cumulative effects can be categorised into two types:

- **combined effects** - occur when two or more different environmental effects from the Development (e.g. dust, noise, traffic) act together to produce a different level of effect/ impact experienced by a particular receptor. These combined effects (or 'Intra-Project') can be additive or synergistic such that the sum of the impacts can be less or more than the individual impacts (i.e. because they may exacerbate or neutralise one another); and
- **cumulative effects** - are those that accrue over time and space from a number of different development activities and projects in geographical proximity to one another, which individually might be insignificant, but when considered together, could create a significant cumulative effect (also referred to as 'Interproject' effects).

13.2 The cumulative assessment is important to ensure that the combined effects of other schemes with the Development are understood appropriately for decision making. The cumulative effects of the Development and cumulative schemes in the local area will be considered on a topic-by-topic basis with the cumulative assessment methodologies and the cumulative effects reported in a subsection of each ES chapter, along with mitigation measures where necessary. Combined effects will be considered in a separate chapter titled 'Residual Effects, Mitigation and Cumulative Effects'.

13.3 The below sets out screening criteria to identify which cumulative schemes in the area should be subject to assessment:

- Proposed by way of the submission of a planning application and subject to a high certainty of being delivered, permitted/with a resolution to grant planning permission or under construction;
- Located within 1km of the site boundary, spatially linked to the Site by means of the local road network or visible in views to and from the site; and
- Which are 10,000sqm in floor area or would give rise to more than 150 residential units;

**OR**

- Exceptional schemes that do not fit within the above parameters.

13.4 A planning search was undertaken considering the above criteria and the cumulative schemes identified are outline within **Appendix A2**.

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## 14. TOPICS TO BE SCOPED OUT OF THE EIA

### Introduction

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- 14.1 Some topic areas are considered to result in non-significant effects on the environment or are considered to be non-EIA issues. The purpose of the EIA is to assess only those matters considered to have the potential to result in significant effects. Non-significant topic areas in respect of the Proposed Development are considered below.
- 14.2 Text explaining why these topics have not been included in the EIA, including the justification presented below, will be included in the EIA Methodology chapter of the ES.

### Daylight, Sunlight and Overshadowing

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- 14.3 The Site comprises agricultural land currently and the southern border of the Site is screened from Great Ashby due to the areas of woodland. Due to the separation between the Proposed Development and the adjacent properties within Great Ashby, and the expected heights and massing, no significant effects in relation to daylight and sunlight are anticipated and it is therefore proposed that a daylight and sunlight assessment is scoped out of the EIA.

### Human Health

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- 14.4 In line with the 2017 EIA regulations, the impacts of human health and wellbeing have been considered in this Scoping Report. The 2017 EIA Regulations require the consideration of the potential effects on human and population health where significant effects are likely to occur. The assessment should be proportionate to the project being considered.
- 14.5 Where people live and work could have indirect impacts on their personal state of wellbeing. Therefore, new developments could potentially have a beneficial or adverse effect on health, particularly in areas of existing poor health conditions. Poor health outcomes could arise from, for example, construction impacts such as dust or pollution from construction traffic. Poor design and access in end uses could also have effects on health outcomes. However, through appropriate mitigation and design, these effects can be managed and potentially give rise to either neutral or indirect beneficial effects on human health.
- 14.6 At the system level, greater access to adequate housing and employment may be positively correlated with good health, but these effects will be uncertain and not measurable at the level of an individual site. The incidence of any such health effects will be widely dispersed through marginal changes to the wider housing and employment markets, and so the effect is not significant at any level.

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- 14.7 Despite the indirect links that have been identified between new development and health and wellbeing, the potential effects of a new development on the health and well-being of new and existing residents and workers would be largely determined by the way the development's buildings and spaces are used (rather than constructed) and by lifestyle factors which cannot be accurately quantified or controlled at the planning stage.
- 14.8 New development cannot enforce how people ultimately use a development. These 'lifestyle factors' cannot be accurately quantified or controlled and are therefore considered to sit outside the role and scope of planning and EIA.
- 14.9 The following assessments within the EIA will consider the Development's indirect or secondary impacts which could have an effect on health and well-being:
- transport;
  - air quality and odour;
  - noise and vibration;
  - socio-economics.
- 14.10 Specifically, the socio-economic chapter will consider elements such as housing, employment creation, access to health and education facilities and access to open space and play space. These areas are those which can have the most significant direct socio-economic effects on health arising from a Development.
- 14.11 Furthermore, the Applicant would implement appropriate environmental management controls to manage the construction of the Proposed Development addressing issues related to health and wellbeing, including public safety, noise and vibration controls, and air, dust and odour management.
- 14.12 The indirect health and well-being effects are therefore already considered comprehensively in the ES as a whole where their assessment has been identified as being proportionate and/or potentially require mitigation. The inclusion of the requirement to consider population and human health effects in the EIA Regulations is met by the robust assessment of the topics listed above. Therefore, a separate health and wellbeing assessment is proposed to be scoped out of this EIA.

### **Major Accidents and Disasters**

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- 14.13 With reference to Regulation 4(4) and Schedule 4 of the EIA Regulations, this Scoping Report also considers whether there are likely to be any significant effects on the environment or the project

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arising from the vulnerability of the Proposed Development to major accidents or disasters. The EIA Regulations require the ES to consider the inclusion of:

*“a description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned”*

- 14.14 Available guidance (IEMA Quality Mark Article ‘Assessing Risks of Major Accidents / Disasters in EIA’) defines major accidents and disasters as:

*“man-made and natural events which are considered to be likely, and are anticipated to result in substantial harm that the normal functioning of the project is unable to cope with / rectify”.*

- 14.15 Overall, the vulnerability of the Proposed Development to risks of major accidents and/or disasters is considered to be low. The most likely foreseeable vulnerability of the Proposed Development relates to flood risk, but the Site lies entirely within Flood Zone 1 which is the lowest flood risk. Risks to fire can also be assumed to be low provided the detailed design and fire strategy is developed in line with the latest fire safety guidance. No other significant effects relating to the vulnerability of the Proposed Development to major accidents and disasters have been identified and therefore it is proposed that major accidents and disasters is scoped out of the ES.

### **Energy and Sustainability**

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- 14.16 The planning application will be supported by a standalone Sustainability Statement in accordance with NHDC policy. This negates the need for a further sustainability assessment within the ES and accords with the Department of Communities and Local Government’s (DCLG) consultation paper on EIA Good Practice (2006) which states:

*“there is no requirement to include a sustainability appraisal within the Environmental Statement. If such an assessment is required by the Local Planning Authority, it should be provided as a separate document supporting the planning application.”*

- 14.17 The main sustainability commitments of the Proposed Development will be summarised in the ES. As such, all technical assessments will inherently test the principle sustainability design features sought as part of the planning application.

### **Waste**

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- 14.18 The generation of waste will occur as a result of the construction of the Proposed Development and once the Proposed Development is complete and operational. Waste produced during all activities on Site will be subject to the ‘Duty of Care’ under the Environmental Protection Act.

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- 14.19 Construction waste will be managed by the contractor in line with current legislation and best practices, through a Construction Environmental Management Plan (CEMP). Waste management will be dealt with in line with legislative requirements, good practice and NHDC policy standards which would ensure that measures are in place to reduce waste generation and minimise material going to landfill.
- 14.20 A waste and recycling strategy will be implemented for the Development to reduce waste and facilitate recycling and adequate waste and recycling storage facilities will be provided having regard to the 'Design Guidance for the Storage and Collection of Recyclable Waste' (PAN05, 2007) and other relevant sector guidance.
- 14.21 Although the operation of Proposed Development will result in an increase in waste compared to the baseline, waste will be appropriately managed through the measures secured by the planning permission (details to be confirmed in the ES) once the Proposed Development is completed and operational. Based on the above measures, it is considered that there would be no significant waste effects and as such, the topic of 'waste' would be scoped out of the EIA.

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#### **Wind Microclimate**

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- 14.22 The Site currently comprises agricultural land with areas of woodland, with no built structures present on-site. The nearest buildings are located adjacent to the south boundary of the Site, approximately 40m past the Site boundary. These residential dwellings are separated from the Site by areas of woodland. Considering the anticipated height of the Proposed Development, and the physical separation arising from the woodland areas, no significant effects in relation to wind microclimate are anticipated for nearby structure and it is therefore proposed that an assessment of this topic is scoped out of the EIA.

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#### **Ground Conditions and Contamination**

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- 14.23 A desk study & ground investigation report was undertaken for the site in February 2023, the results and conclusions of which are presented in the report by Geotechnical & Environmental Associates Limited which will be submitted as part of the planning application.
- 14.24 There is no record any landfill sites located within 1 km of the site and additionally, no waste management or waste transfer sites are located within 500 m of the site. The Site is underlain by the Lewes Nodular Chalk Formation and Seaford Chalk Formation, overlain by superficial Head Deposits across the central and southeast of the site and the Lowestoft Formation in the southwest of the site, as well as along the north eastern site boundary. The Head Deposits and Lowestoft Formation are classified as a Secondary Aquifer (undifferentiated),

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- 14.25 Drilling indicated that groundwater is not present, and the standpipes have been found to be dry during a single monitoring visit carried out to date.
- 14.26 Contamination testing indicated that from the samples tested, there is not a presence of elevated concentrations of contaminants within the Site.
- 14.27 Prior to the commencement of works, a CEMP will ensure that best practice measures for environmental management and human health are incorporated. A watching brief will also be recommended during the construction works to ensure that if visual and/or malodorous evidence of potential contamination is identified an agreed procedure is in place to address this.
- 14.28 As the desktop study & ground investigations report indicated that there is not a presence of elevated concentrations of contaminants within the Site, and the implementation of the above mitigation measures, the Site and local area geology can be considered to be of low sensitivity with negligible impact from the Proposed Development, and therefore scoped out of the ES.

### **Built Heritage**

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- 14.29 In line with para 194 of the NPPF, the heritage significance (sensitivity in EIA terms) of the heritage assets and their settings which have the potential to be impacted by the proposed development have been proportionately assessed. As such, this assessment employs a search radius of 1km from the centre of the Site.
- 14.30 There are no listed buildings or scheduled monuments located on-site. There are 11 listed buildings within 1km of the site, all of which are Grade II listed:
- Farm Buildings Next the Road at Friends Green Farm (Grade II, List UID: 1347436)
  - East Barn and Attached Outbuildings at Friends Green Farm (Grade II, List UID: 1102482)
  - Friends Green Farmhouse (Grade II, List UID: 1102522)
  - Barn at Warrensgreen (Grade II, List UID: 1308229)
  - Dane End Cottage (Grade II, List UID: 1308310)
  - Barn to East of Farmhouse at Tilekiln Farm (Grade II, List UID: 1102485)
  - Tilekiln Farm House (Grade II, List UID: 1102483)
  - Dane End Farmhouse (Grade II, List UID: 1347416)
  - Granary at Dane End Farm, 4 meters to west of House (Grade II, List UID: 1102518)
  - Barn Group around Courtyard at Tilekiln Farm (Grade II, List UID: 1102484)

- 
- The Thatched Cottage (Grade II, List UID: 1102495)

- 14.31 The St Nicholas's Rectory Lane Conservation Area is located approximately 1.35km south-west of the Site, however, the two areas are separated by urban land, meaning significant impacts to this conservation area is unlikely.
- 14.32 The closest heritage asset to the Site is the Barn at Tilekiln Farm (Grade II), Tilekiln Barn Group (Grade II) and Tilekiln Farmhouse (Grade II), all of which are located adjacent to a section of the northern boundary of the Site.
- 14.33 A Heritage Impact Assessment was prepared in 2016 by Heritage Network to assess the potential effects on surrounding heritage assets from development at the Site. This report only identified the potential for indirect impacts to setting on Tilekiln Farmhouse, Barn and Farm Buildings (all Grade II) and Dane End Farmhouse, Cottage and Granary (all Grade II). As such, the likelihood for significant effects on any other heritage asset nearby is considered to be very low. Similarly, while the proposed development may appear in the wider setting of the Dane End Farm Grouping, it would be a small element in a wider rural setting (which is likely to be screened by landscaping), much of which would not be affected. Where visible, the proposed development is likely to appear as a consolidation of the urban setting of Great Ashby which features in the wider rural area. As such, the contribution of setting to significance is unlikely to be affected, and therefore unlikely to lead to significant effects.
- 14.34 While there is potential for impacts to setting of the Tilekiln Farm Grouping due to the proximity of the Site, it is anticipated that sufficient mitigation measures can be implemented using landscaping to provide some separation (via a buffer zone) and screen visibility (via planting at the boundary) of the proposed development from the Site. This would avoid any potential significant effects which directly relating to the nearby listed building as it would reflect its existing setting which includes strong planted boundaries (woodland) at the boundary of nearby Great Ashby.
- 14.35 Furthermore, as the proposed uses and indicative design of the Site are compatible with those in the surrounding area and of a modest scale, significant impacts on the setting of heritage assets as a result of the Proposed Development are considered unlikely. The potential effects on setting will be assessed in detail in the Heritage Impact Assessment which will accompany the Strategic Masterplan being prepared for the Site.
- 14.36 As such, it is considered that sufficient information available to conclude that there is no likelihood of significant effects in relation to built heritage, and therefore it is appropriate to scope this topic out of the ES.

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## **Agricultural Land**

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- 14.37 The agricultural land within the Site is of varied capability for agriculture. The agricultural land on the Site is not grade 1 or 2, meaning that it is not considered important, high quality, or a scarce resource.
- 14.38 The Proposed Development would change the character of the land through its redevelopment for housing, neighbourhood facilities, primary and secondary schools and associated road infrastructure. The provision of 650 dwellings would give rise to a urbanising impact and incorporate the site as part of the settlement of Stevenage. The Proposed Development would change the character of the land to an urbanised land use, however, the nature of the impact would be concentrated within the Site.
- 14.39 Due to the quality of the agricultural land found on Site, the loss of low-quality agricultural land is considered to not be a significant effect on agricultural land. Therefore, it is appropriate to scope this topic out of the ES.

## **Climate Change**

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- 14.40 The 2017 EIA Regulations require consideration of the impact of the project on climate (for example the nature and magnitude of greenhouse gas (GHG) emissions) and the vulnerability of the project to climate change.
- 14.41 The Development will likely result in an increase in GHG emissions compared to the baseline conditions during construction works and once the Development is completed and operational. Primary GHG emission sources during construction are likely to be associated with embodied carbon within construction materials, construction traffic, construction plant and energy use. Primary sources of GHG emissions during operation are likely to be associated with the energy use, operational traffic and building maintenance.
- 14.42 During the design of the Development, consideration will be given to passive design and orientation, biodiversity, use of sustainable materials, energy efficiency measures and low carbon solutions to reduce GHG. Given this and, owing to the size of the Site and Development, it is unlikely that any increase in GHG will have material impact on the Government's target for carbon reduction. The ES will include a section in the project description about climate change adaption and resilience and how the design of the Development has incorporated such measures. A sustainability statement will be submitted in support of the planning application, which will set out the sustainability measures committed to by the Applicant.
- 14.43 Projected changes to average climatic conditions, as a result of climate change, and an increased frequency and severity of extreme weather events (such as heavy and/or prolonged precipitation, storm events and heatwaves) have the potential to impact the ability of the environment to adapt to

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climate change. The main impact of the climate change on the Development is considered to be in relation to changing rainfall patterns (increase in surface water run-off), which along with mitigation measures, will be considered in the Flood Risk Assessment and surface water drainage strategy.

- 14.44 Due to the relative scale and nature of the Proposed Development, there will not be any direct or significant impacts on the local environment and its climate. As such it is proposed that this topic is scoped out of the EIA.
- 14.45 Although the Proposed Development will have no direct local environmental impact, measures to minimise its carbon footprint will be integrated into the design of the Proposed Development and implemented through the planning framework, in particular the North Herts Local Plan 2011-2031.