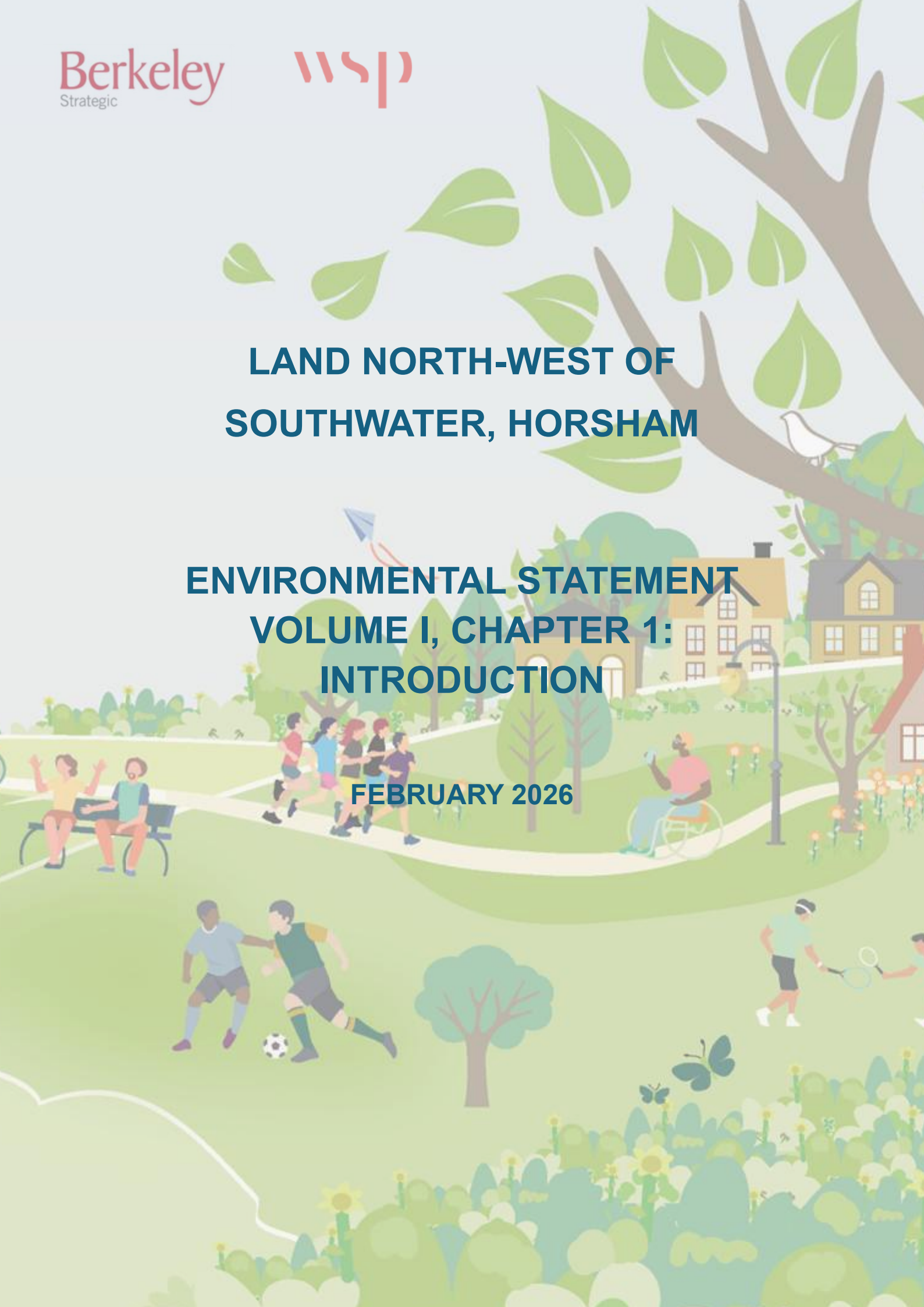

# LAND NORTH-WEST OF SOUTHWATER, HORSHAM

# ENVIRONMENTAL STATEMENT VOLUME I, CHAPTER 1: INTRODUCTION

FEBRUARY 2026

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# 1. INTRODUCTION

## 1.1. INTRODUCTION

1.1.1. Berkeley Strategic Land Ltd (Berkeley) (hereby referred to as 'the Applicant') intends to submit an outline planning application to Horsham District Council (HDC), for a residential-led mixed-use development (hereafter referred to as the 'Proposed Development'). WSP UK Limited ('WSP') has been commissioned by the Applicant to carry out the Environmental Impact Assessment (EIA) in support of the outline planning application, with a description below.

1.1.2. *Outline planning application, with all matters reserved (except for primary access to the highway) for a phased development comprising: the demolition of existing buildings and the construction of residential dwellings (including affordable housing) (Use Classes C2 and C3); a mixed-use neighbourhood centre (Use Classes E and F); education facilities (Use Class F1(a)); business and employment floorspace (Use Classes B2, B8 and E(g)); redevelopment of existing agricultural buildings including construction of a building for community use (Use Classes E and F2); improvements to public rights of way; sports pitches; gypsy and traveller pitches/plots; public open space; landscaping, and associated infrastructure.*

1.1.3. The location of the Proposed Development, referred to as the 'Site', is located west of and adjacent to Southwater, West Sussex and is located within the administrative area of HDC, shown in **Figure 1 – Site Location Plan in Appendix 1.1,** and described further in **Volume 1, Chapter 2: The Existing Site**.

1.1.4. The Environmental Statement (ES) is the written output of the EIA process which has been undertaken in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (**Ref. 1.1**) (referred to as the 'EIA Regulations').

1.1.5. This chapter of the ES outlines the legal framework and structure of the ES and supporting documents. A breakdown of the information required by the EIA Regulations is provided in **Table 1-1** alongside guidance on the location of this information within this ES.

## 1.2. DEFINITION OF AN ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

1.2.1. The term 'Environmental Impact Assessment' describes a process required in law for certain projects by virtue of their size, activities, location, and potential to give rise to significant effects on the environment. The ES is used to inform decision makers in exercising their responsibilities about the environmental effects of the proposals, in particular the effects that are deemed to be both likely and significant.

1.2.2. The aim of an EIA is to:

"*Protect the environment by ensuring that a local planning authority when deciding whether to grant planning permission for a project, which is likely to have significant effects on the environment, does so in the full knowledge of the likely significant effects, and takes this into account in the decision making process" and "ensure that the public are given early and effective opportunities to participate in the decision making procedures*" (**Ref. 1.2**).

## 1.3. LEGAL FRAMEWORK FOR THE ENVIRONMENTAL STATEMENT

1.3.1. The *EIA Regulations* implement the requirements of EU Directive 2014/52/EU and require that prior to consent being granted, for certain types of development, an EIA must be undertaken. The EIA Regulations set out the types of development which must always be subject to an EIA (Schedule 1 development) and other developments which may require an assessment if they give rise to likely significant environmental effects (Schedule 2 development).

**SCREENING (REGULATIONS 5, 6 AND 7)**

1.3.2. The Proposed Development falls under Schedule 2 of the EIA Regulations.

1.3.3. Under Schedule 2 of the EIA Regulations, it is a matter for the Local Planning Authority to determine the need for an EIA through the evaluation of the sensitivity of the Site and surrounding area and whether the Proposed Development has the potential to result in likely significant environmental effects by virtue of its characteristics, location and nature of the effects (in accordance with Regulation 5 of the EIA Regulations).

1.3.4. The Proposed Development falls under Schedule 2, category 10(b) Urban development projects, as the Site exceeds the criteria set out below according to the EIA Regulations:

- "(i) The development includes more than 1 hectare of urban development which is not dwelling house development; or
- (ii) the development includes more than 150 dwellings; or
- (iii) the overall area of the development exceeds 5 hectares."

1.3.5. The Proposed Development exceeds the threshold stated under Schedule 2, category 10(b) part (i), (ii), (iii).

1.3.6. As the development proposals exceed the relevant thresholds for Schedule 2 development, and due to the scale and surrounding environment, the development constitutes EIA development and the Applicant has decided to forego the EIA screening process and progress with a voluntary EIA.

**SCOPING (REGULATION 15)**

1.3.7. An EIA Scoping Report was submitted to HDC on 10th November 2025 (as presented in **Volume 2, Appendix 1.1**), together with a formal request for an EIA Scoping Opinion, in accordance with Regulation 15(1) of the EIA Regulations. A formal Scoping Opinion was subsequently received from HDC on 15th December 2025 as included in **Volume 2, Appendix 1.2**. Further details on the Scoping Opinion and how it has informed this ES are provided in **Volume 1, Chapter 5: Approach to EIA** and **Volume 2, Appendix 5.1: EIA Scoping Opinion Comments and Responses**.

**ENVIRONMENTAL STATEMENT**

1.3.8. The findings of the EIA are presented in this ES which has been prepared in accordance with the EIA Regulations, the National Planning Policy Framework (NPPF) 2024 (**Ref. 1.3**), best practice guidance issued by the Institute of Sustainability and Environmental Professionals (ISEP) (formerly IEMA), as well as planning practice guidance (**Ref. 1.4**). The ES is provided in three parts:

- **Volume 1: Main Text and Figures;**
- **Volume 2: Technical Appendices; and**
- **Volume 3: Non-Technical Summary.**

1.3.9. Schedule 4 of the EIA Regulations provides details of the information required for inclusion in an ES. **Table 1-1** summarises the requirements and where the information can be found within this ES.

**Table 1-1 - Location of Required Information within the ES**

| | Required Information | Location within this ES |
|---|---|---|
| 1 | Description of the development, including in particular: | |
| | (a) a description of the location of the development | **Volume 1, Chapter 2: The Existing Site** |
| | (b) a description of the physical characteristics of the whole development, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases | **Volume 1, Chapter 3: Description of the Proposed Development** |
| | (c) a description of the main characteristics of the operational phase of the development (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used | **Volume 1, Chapter 3: Description of the Proposed Development** |
| | (d) an estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the construction and operation phases). | **Volume 1, Chapter 3: Description of the Proposed Development** and technical chapters 6 to 16 |
| 2 | A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects. | **Volume 1, Chapter 4: Reasonable Alternatives Considered** |
| 3 | A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge. | **Volume 1, Chapter 2: The Existing Site**, **Volume 1, Chapter 5: Approach to EIA** and technical chapters 6 to 15 |
| 4 | A description of the factors specified in regulation 4(2) likely to be significantly affected by the development: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape. | **Volume 1, Chapters 6 to 15** |
| 5 | A description of the likely significant effects of the development on the environment resulting from, inter alia | |
| | the construction and existence of the development, including, where relevant, demolition works; | **Volume 1, Chapters 6 to 15** |
| | the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources; | **Volume 1, Chapters 6 to 15** |

| | Required Information | Location within this ES |
|---|---|---|
| | the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste; | **Volume 1, Chapters 6 to 15** |
| | the risks to human health, cultural heritage or the environment (for example due to accidents or disasters); | **Volume 1, Chapters 6 to 15** |
| | the cumulation of effects with other existing and / or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources; | **Volume 1, Chapters 6 to 15** and **Volume 1, Chapter 16: Cumulative Effects** |
| | the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change; | **Volume 1, Chapter 3: Description of the Proposed Development** |
| | the technologies and the substances used. | **Volume 1, Chapter 3: Description of the Proposed Development** and **Volume 1, Chapters 6 to 15** |
| 6 | A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved. | **Volume 1, Chapters 6 to 15** |
| 7 | A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases. | **Volume 1, Chapters 6 to 15** |
| 8 | 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. Relevant information available and obtained through risk assessments pursuant to EU legislation such as Directive 2012/18/EU(3) of the European Parliament and of the Council or Council Directive 2009/71/Euratom(4) or UK environmental assessments may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies. | **Volume 1, Chapter 3: Description of the Proposed Development** and **Volume 1, Chapters 6 to 15** |
| 9 | A non-technical summary of the information provided under paragraphs 1 to 8 | **Volume 3: Non-Technical Summary** |
| 10 | A reference list detailing the sources used for the descriptions and assessments included in the environmental statement. | **All chapters. A Glossary and a list of abbreviations if provided in Appendix 1.3** |

## 1.4. THE PROJECT TEAM

1.4.1. In line with Regulation 18(5)(a) – (b) of the EIA Regulations, the ES and technical assessments which inform it have been undertaken by a suitably qualified project team. Table 1-2 presents the Project Team for the ES, their associated roles and expertise. The Project Team stated are responsible for the scope, content and assessment of likely significant environmental effects of their respective technical chapters (where relevant).

1.4.2. WSP is responsible for the coordination, compilation and procedural review of the ES. WSP is registered under the EIA Quality Mark operated by the Institute of Sustainability and Environmental Professionals (ISEP), formerly known as IEMA, which recognises our commitment to excellence in EIA activities. WSP was one of the original eight pilot organisations in the UK that trialled the process in 2011 and developed the EIA Quality Mark scheme from the former Corporate Registered Assessor process. We have continued to maintain our EIA Quality Mark registration, following annual examination by ISEP in relation to our ongoing products, staff, innovation and promotion of EIA within the industry. WSP has and continues to support and lead nationally recognised guidance for EIA in the UK.

**Table 1-2 - The Project Team**

| Element | Company | Competent Expert Evidence |
|---|---|---|
| Planning Consultant | Nexus Planning | Planning Lead:<br>Daniel Gresswell-Nunn<br>Planning Support:<br>Sarah Roe<br>Rob Pearson<br>Max Gull |
| EIA Coordination, overarching technical authority for the ES<br>Chapter 1: Introduction<br>Chapter 2: The Existing Site<br>Chapter 3: Description of the Proposed Development<br>Chapter 4: Reasonable Alternatives Considered<br>Chapter 5: Approach to EIA<br>Chapter 16: Cumulative Effects<br>Chapter 17: Summary of Effects and Mitigation Measures | WSP | EIA Project Director:<br>Greg Irvine<br>EIA Project Manager:<br>Karen Bates<br>EIA Coordinator:<br>Ollie Aldington |

| Element | Company | Competent Expert Evidence |
|---|---|---|
| Non-Technical Summary | | |
| Chapter 6: Air Quality | WSP | Air Quality Technical Lead:<br>Andy Talbot<br>Air Quality Technical Support:<br>Natalie Espelid |
| Chapter 7: Cultural Heritage and Archaeology | RPS Tetra Tech | Cultural Heritage Technical Lead:<br>Gillian King |
| Chapter 8: Ecology and Arboriculture | Hankinson Duckett Associates (HDA)<br>Ruskins Tree Consultancy | Ecology Technical Lead:<br>Adrian Meurer<br>Arboriculture Support (Tree Survey Report and Arboricultural Impact Assessment):<br>Peter Wilkins |
| Chapter 9: Landscape and Visual | Fabrik | Landscape and Visual Project Director:<br>Andrew Smith<br>Landscape and Visual Technical Leads:<br>Charlotte Mimms<br>Andy Smith<br>Jennifer Beckett |
| Chapter 10: Noise and Vibration | WSP | Noise and Vibration Technical Lead: |

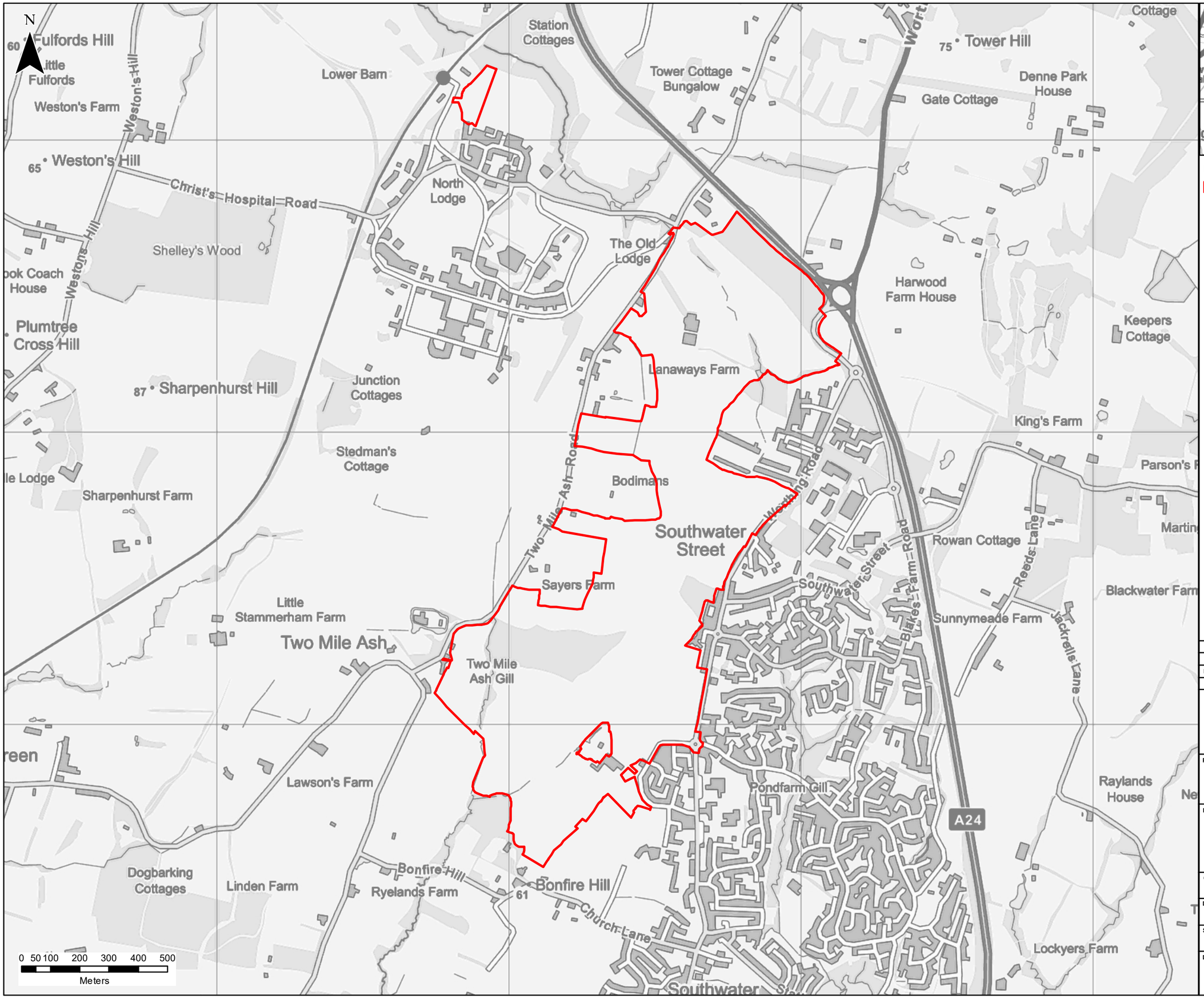
| Element | Company | Competent Expert Evidence |
|---|---|---|
| | | Michael Ashcroft<br>Noise and Vibration Technical Support:<br>Yasmin Hall |
| Chapter 11: Socio-economics | WSP | Socio-economic Technical Lead:<br>Julia Laver<br>Socio-economic Support:<br>Shivangi Lakhera |
| Chapter 12: Traffic and Transport | WSP | Traffic and Transport Project Director:<br>Allan Norcutt<br>Traffic and Transport Technical Leads:<br>David Dixon<br>Philip Moss<br>Craig Drennan |
| Chapter 13: Water Resources, Flood Risk and Drainage | WSP | Water Resources, Flood Risk and Drainage Technical Leads:<br>Simon Purcell<br>Darren Brown |
| Chapter 14: Ground Conditions and Contamination | Geo-Environmental Services Ltd (GESL) | Ground Conditions and Contamination Technical Leads:<br>Laura Legate<br>Glyn Evans |
| Chapter 15: Greenhouse Gases | WSP | Greenhouse Gases Technical Leads:<br>Amruta Parade<br>Shivani Gupta |
| Utilities | Premier Energy | Utilities Director:<br>Graham Phillips |

| Element | Company | Competent Expert Evidence |
|---|---|---|
| Sustainability & Energy / Water Conservation | Hodkinson Consultancy | Sustainability & Energy / Water Conservation Lead<br>Jon Thomas-Peck |

## 1.5. REFERENCES


- **Reference 1.1**: Town and Country Planning (Environmental Impact Assessment) Regulations 2017. Statutory Instrument 2017 No. 571.
- **Reference 1.2**: Planning Practice Guidance (PPG) Online Tool, Paragraphs 032 and 033. Reference ID: 4-002-20140306. [Online] accessed via https://www.gov.uk/guidance/environmental-impact-assessment [Accessed November 2025].
- **Reference 1.3**: National Planning Policy Framework 2024. [Online] accessed via https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf [Accessed November 2025].
- **Reference 1.4**: Planning Practice Guidance (PPG) Online Tool. [Online] accessed via https://www.gov.uk/guidance/environmental-impact-assessment [Accessed November 2025.

**Figure 1-1 - Site Location Plan**




**Legend**

Site Boundary

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| REVISION | DRAWN | CHECKED | APPROVED | DATE |
|---|---|---|---|---|
| P01 | AP | SP | NL | 10/02/2026 |
| DESCRIPTION | | | | |
| FIRST DRAFT ISSUE | | | | |

wsp

**PROJECT TITLE:**

LAND NORTH-WEST OF SOUTHWATER

**DRAWING TITLE:**

FIGURE 1-1 - SITE LOCATION PLAN

**CONFIDENTIALITY**

PUBLIC

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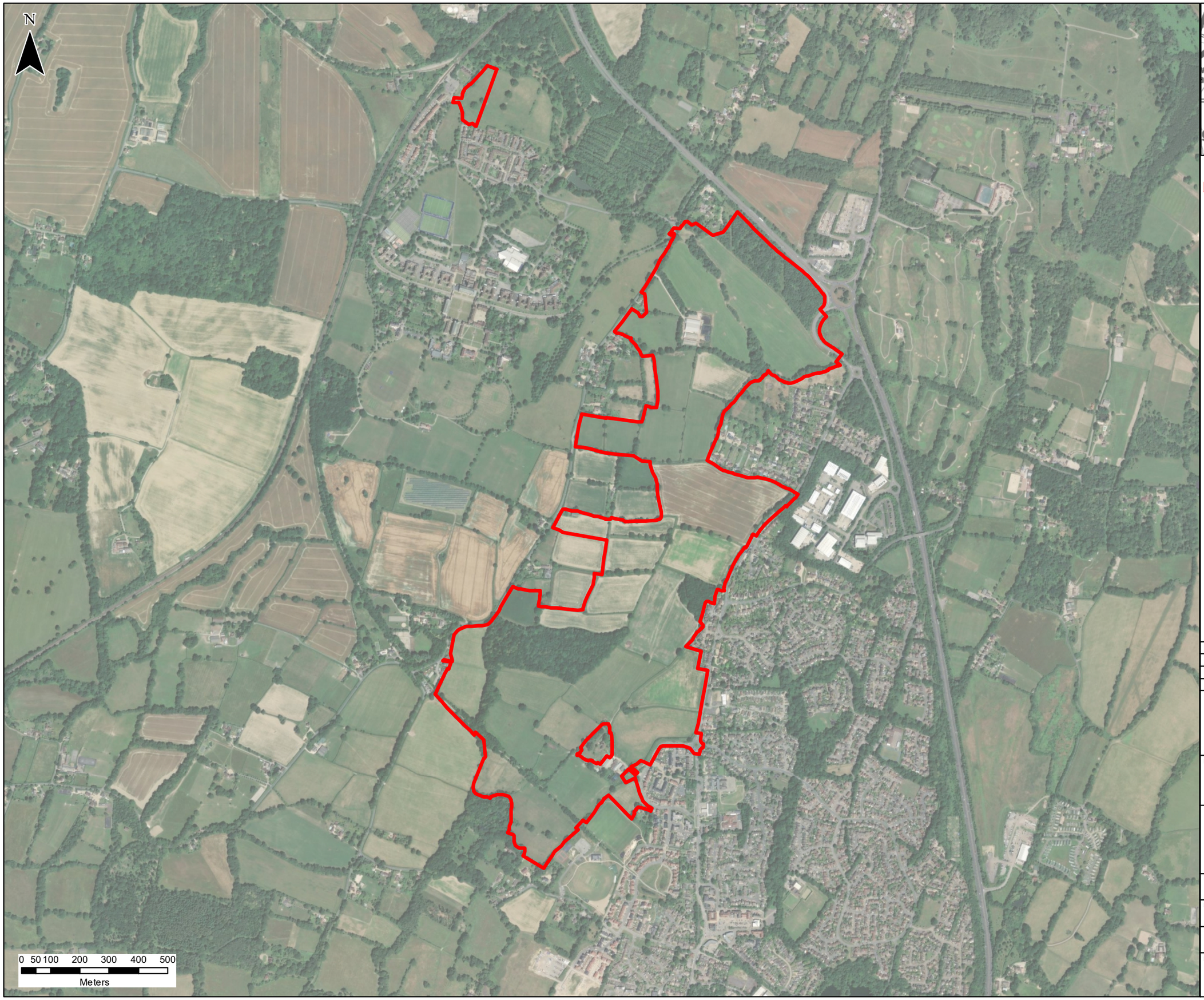
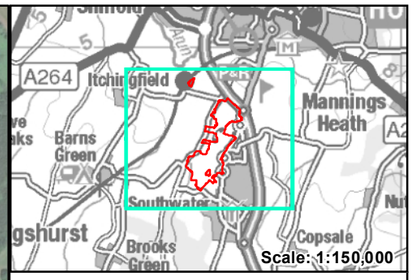
**Figure 1-2 - Aerial View of the Site**




**Legend**

Site Boundary

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| P01 | AP | SP | NL | 10/02/2026 |

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PROJECT TITLE:

LAND NORTH-WEST OF SOUTHWATER

DRAWING TITLE:

FIGURE 1-2 - AERIAL VIEW OF THE SITE

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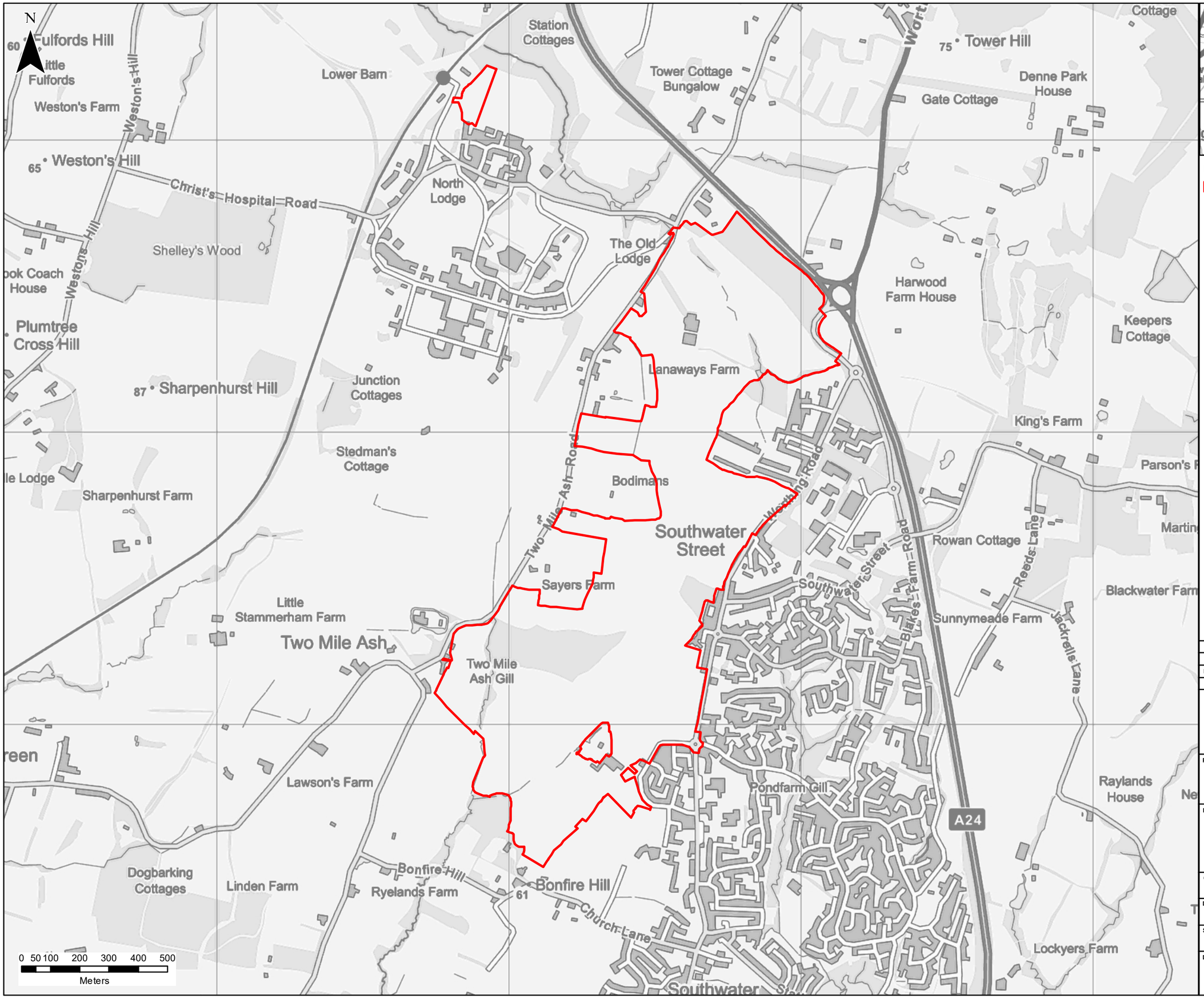
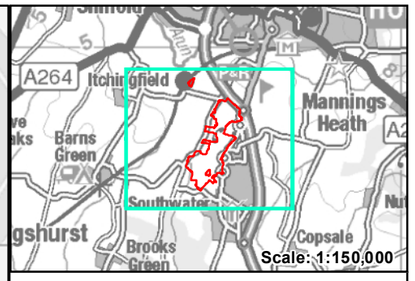
\\uk.wspgroup.com\central data\Projects\70091xxx\70091497 - North Southwater, Phase 2\03 WIP\EN Environment\GIS\MXD\Figure_1-2_Aerial_View_ of_the_Site.mxd

**Figure 1-3 - Planning Application Boundary**




**Legend**

Planning Application Boundary

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DESCRIPTION: FIRST DRAFT ISSUE

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**PROJECT TITLE:**

LAND NORTH-WEST OF SOUTHWATER

**DRAWING TITLE:**

FIGURE 1-3 - PLANNING APPLICATION BOUNDARY

**CONFIDENTIALITY**

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**DRAWING NUMBER:**

70091497-WSP-ENV-003

WSP House
70 Chancery Lane
London
WC2A 1AF

**wsp.com**

# LAND NORTH-WEST OF SOUTHWATER, HORSHAM

# ENVIRONMENTAL STATEMENT VOLUME I, CHAPTER 2: THE EXISTING SITE

FEBRUARY 2026

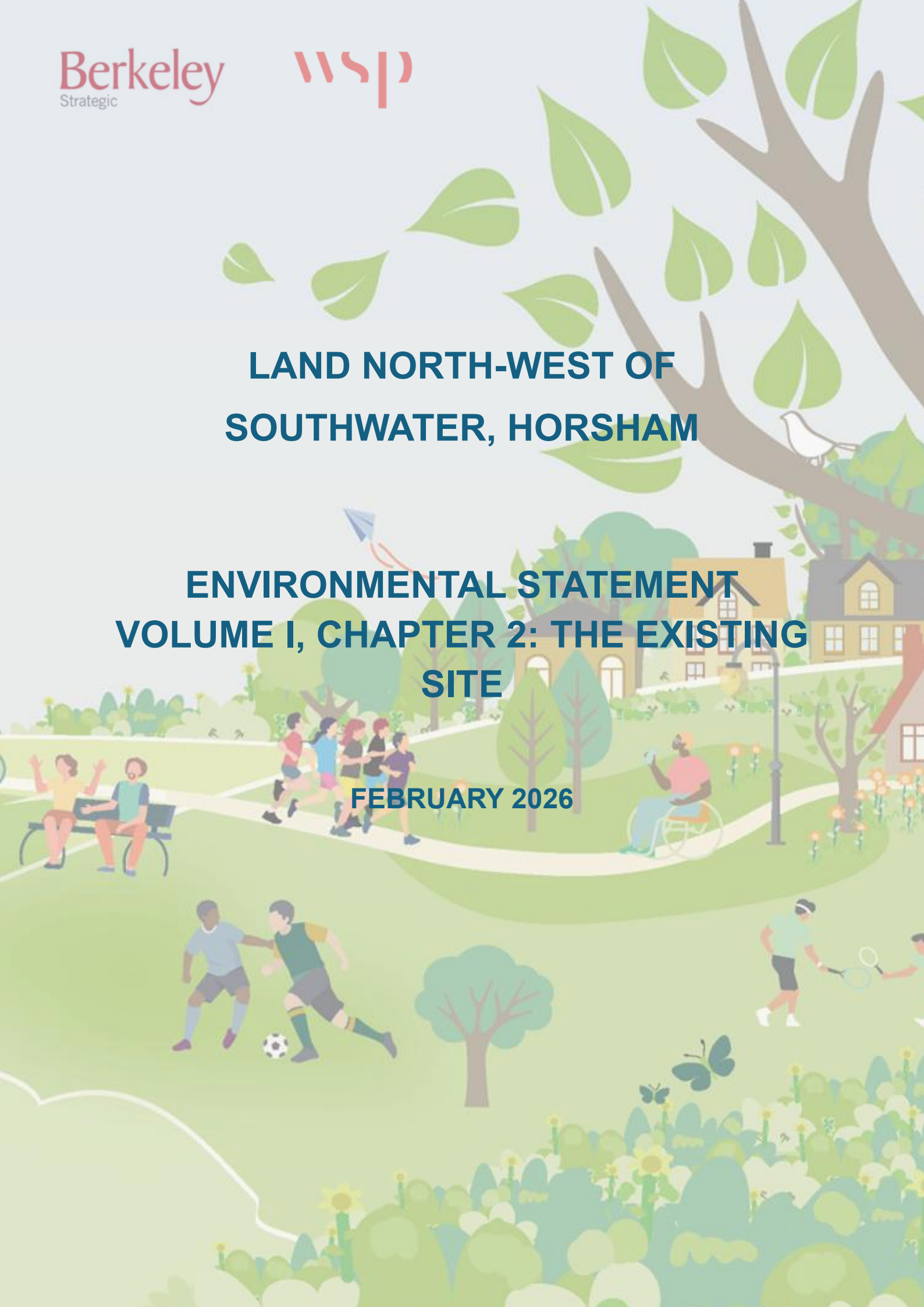

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Figure 2-1 - Environmental Features Plan 12

# 2. THE EXISTING SITE

## 2.1. INTRODUCTION

2.1.1. This chapter provides an overview of both the Site (shown on **Figure 1.3: Planning Application Boundary**) and the surrounding area. Key spatial boundaries are illustrated in **Figure 2-1: Environmental Features Plan**. **Table 2-3** below provides an overview of key environmental receptors of the Proposed Development; with further information provided within **Volume 1, Chapters 6 to 15.** The Site is approximately 116.7 hectares (ha) and is split into the Main Site and North Site. The North Site (proposed car park near Christ's Hospital Station) is 1.34ha. The Site is located to the north-west of Southwater, West Sussex and is located within the administrative area of Horsham District Council (HDC). The OS Grid Reference for the approximate centre of the Site is National Grid Reference TQ154274. The Site location is illustrated in **Figure 1-1: Site Location Plan** and **Figure 1-2: Aerial View of the Site**.

## 2.2. CURRENT LAND USE

2.2.1. The Main Site comprises primarily agricultural land, with hedgerows, scattered trees, areas of woodland and a number of streams and drains running in various directions throughout the Site. A farmyard, including barns, is located in the northern area of the Main Site. Barns associated with the Grade II* Listed Great House Farm lie within the Main Site (Great House Farm is entirely enclosed by the Main Site on all sides although the listed building itself lies outside of the application boundary).

2.2.2. The Main Site is bounded by the A24 to the north, Worthing Road to the east (beyond which is the settlement of Southwater), Bonfire Hill to the south, and Marlpost Road and Two Mile Ash Road to the west.

2.2.3. The North Site near Christ's Hospital Station comprises agricultural land with scattered trees. This site is bounded by agricultural land to the east, woodland to the north, residential houses associated with Barnes Wallis Avenue to the south and Christs Hospital Station and residential houses associated with Station Road to the west.

2.2.4. Further details on current land use within the Site and surrounding area are provided in **Volume 1, Chapters 6 to 15.**

### POPULATION AND SETTLEMENTS

2.2.5. The Site is located adjacent to and west of the settlement of Southwater, within the administrative boundary of HDC. The Site is approximately 2km south of the town of Horsham.

### UTILITIES

2.2.6. Several types of utilities have networks present within and adjacent to the Site, including high-voltage overhead power lines (UK Power Networks and GTC-UK), water mains and sewers (Southern Water), gas mains (Scotia Gas Networks and GTC-UK), Openreach lines and communication lines (Vodafone and EXA).

## ACCESS

2.2.7. The Site is adjacent (south) of the A24 and Worthing Road (to the east) which provides a vehicular link to Horsham via the B2237 (Worthing Road). The nearest railway station to the Site is Christs Hospital, which is located adjacent to the North Site, north-west of the Main Site.

2.2.8. The Downs Link (BW3568), a long-distance bridleway which follows the route of a disused railway line and is used by walkers, cyclists and horse riders, runs through the Main Site to the south. The Downs Link also connects to other long-distance routes such as the Wey South Path, The Greensand Way and National Cycle Network 2 and 22. Two further Public Right of Ways (PRoWs), Bridleway 1597-1 and Footpath 1651, are considered due to their connection to the wider network. An overview of the PRoWs and Bridleways is shown in **Insert 2-1**.

2.2.9. The following PRoWs and bridleways shown in **Table 2-1** below are located within and surrounding the Main Site:

**Table 2-1 - PRoWs and Bridleways within and surrounding the Main Site**

| PRoW type | PRoW ID |
|---|---|
| Intersecting footpaths | FP1660<br>FP1656<br>FP1658<br>FP1655<br>FP1654 |
| Adjacent footpaths | FP1648<br>FP1652<br>FP1653<br>FP1661 |
| Intersecting bridleways | BW1642<br>BW1662<br>BW3568 |
| Adjacent bridleways | BW2929<br>BW1642 |

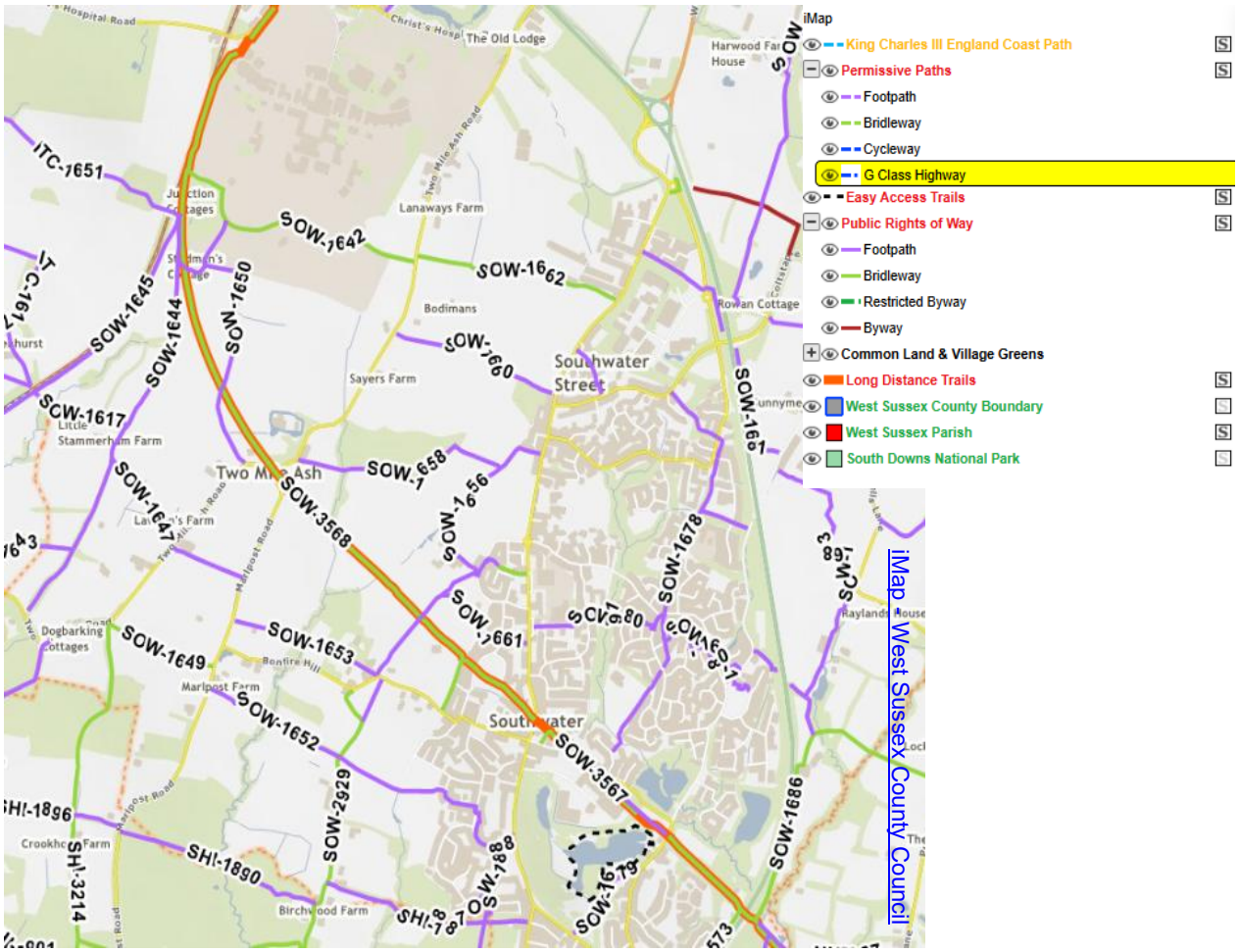
2.2.10. The following PRoWs and bridleways in **Table 2-2** are located within and surrounding the North Site near Christ's Hospital Station:

**Table 2-2 - PRoWs and Bridleways within and surrounding the North Site**

| PRoW type | PRoW ID |
|---|---|
| Intersecting footpaths | FP1628-3 |
| Adjacent footpaths | FP1637 |

| PRoW type | PRoW ID |
|---|---|
| Intersecting bridleways | - |
| Adjacent bridleways | BW3785<br>BW3786 |

2.2.11. .




**Insert 2-1 - Public Rights of Way & Bridleways surrounding the Site**

## 2.3. ENVIRONMENTAL & SOCIAL FEATURES

2.3.1. Key environmental features are set out in **Figure 2-1: Environmental Features Plan** and summarised below, with further detail available in **Volume 1, Chapters 6 to 15.**

### ENVIRONMENTAL FEATURES

#### Ground Conditions

2.3.2. A historic landfill is present on the northern boundary of the Main Site and this area is currently covered by woodland. Two areas of historic landfill are also located in the southern area of the Main Site, located within and adjacent to the disused railway line, which is now the Downs Link.

2.3.3. The majority of the Main Site's bedrock geology comprises of the Horsham Stone Member (Sandstone), the northern and southern areas within the Main Site comprise the Weald Clay Formation (Mudstone). Both the North Site and Main Site comprised of Horsham Stone Member and Weald Clay Formation. The Site is not underlain by any Superficial deposits.

2.3.4. The Site is located within a Brick Clay Resource and a Building Stone Mineral Safeguarding Area which are designated by the West Sussex County Council Joint Minerals Local Plan (**Ref. 2.1**).

#### Ecology

2.3.5. No statutory designated areas for nature conservation are located within or immediately adjacent to the Site. No internationally designated areas such as Special Protection Areas (SPAs) or Special Areas of Conservation (SACs) are located within 10km of the Site boundary and no National Nature Reserves (NNRs) are located within 5km of the Site boundary. Warnham Local Nature Reserve is located within 5km of the Proposed Development. However, there are four designated areas located within 13km of the Site boundary. The closest is The Mens Special Area of Conservation (SAC) (11.3km to the south-west).

2.3.6. Two biological Sites of Special Scientific Interest (SSSI) are located within 5km of the Site boundary. The closest are St Leonard's Park Ponds SSSI (4.2km to the north-east) and St Leonard's Forest SSSI (4.5km to the north-east). Slinfold Stream and Quarry SSSI (approximately 3.9km to the north-west) is a geological designation.

2.3.7. One non-statutory designated site, Courtland Wood Local Wildlife Site (LWS), is located within the Site boundary (Note: Local Wildlife Sites are referred to as their former title of Sites of Nature Conversation Importance (SNCI) in the adopted Local Plan). Five further LWSs lie within 2km of the Site Boundary, the closest is Sparrow Copse LWS, located adjacent to the northern boundary of the Christ's Hospital site.

2.3.8. There are three areas of ancient woodland (woodland included on Natural England's Ancient Woodland Inventory) located within the Site. These are Smith's Copse (one woodland unit) which borders the boundary adjacent to Worthing Road, and Courtland Wood and Two Mill Ash Gill (two woodland units located adjacent to each other and shown as one area) which are situated in the southern portion of the Site bordering both the southern and western boundaries adjacent to the Downs Link and Two Mile Ash Road respectively.

#### Landscape

2.3.9. There are no protected landscape designations covering the Site or the surrounding area. The Site lies within National Character Area Profile (NCAP) 121 Low Weald **(Ref. 2.2)**, which is a broad, low-

lying clay vale which wraps around the northern, western, and southern edges of the High Weald. It is primarily agricultural land, with some densely wooded areas and ancient woodland. Part of the Low Weald falls within adjacent designated landscapes such as the Surrey Hills, Kent Downs and High Weald National Landscape (previously known as Areas of Outstanding Natural Beauty), and the South Downs National Park. The Site also lies within the Central Low Weald (LW6) character area of the West Sussex Landscape Character Assessment 2003 **(Ref. 2.3)**. The Central Low Weald consists of mainly pastoral landscape, with a range of ancient broadleaved woodlands, small stream valleys and wet woodlands draining to the Adur and Arun, a mix of pasture and arable fields with farmsteads, and unimproved grassland of which Walden Close Meadow is designated as a Site of Nature Conservation Importance (SNCI).

**Cultural Heritage**

**2.3.10.** There are 24 listed buildings within 500m of the Site, one of which is Grade II* (Great House Farmhouse) and 23 of which are Grade II. Great House Farmhouse is entirely enclosed by the Site on all sides although the listed building itself does not fall within the Site Boundary. Its associated barns (non-designated) lie within the Site Boundary. Two further Grade II* listed buildings (Dining Hall and Water Tower to North, School to South, Collannaded Wings to East and West (Chapel in West Wing) forming a Quadrangle, and 8 H Shaped Blocks (4 on each side of Dining Hall) at Christ's Hospital and Arts Centre and Music School at Christ's Hospital) are located to the west of the Main Site at Christ's Hospital. While located outside the cultural heritage study radius, these buildings have been included as part of the baseline assessment as part of a comprehensive approach to appraising potential effects on the local historic built environment.

2.3.11. Eight Grade II listed buildings are adjacent to the western boundary of the Main Site, located on Two Mile Ash Road. A group of three Grade II listed buildings are located to the south of the Broadacres development and are located to the east of the South Site (east of Bonfire Hill). College Farmhouse, Grade II, is located at the eastern boundary of the Main Site, now encompassed within the Broadacres development. Pond Farmhouse, a Grade II listed building, is located on Worthing Road and is approximately 70m from the eastern boundary.

**Air Quality**

2.3.12. The Site is in an area where air quality is generally good, with ambient pollutant concentrations likely to be well below and meeting current air quality standards. The air quality in the area is mainly influenced by vehicular emissions from the A24, Worthing Road and Two Mile Ash Road. There are no industrial pollution sources that are likely to noticeably influence local air quality at the Site. Horsham WWTW is located approximately 130m north-west of Christ's Hospital car park site and 1.2km north-west of the Main Site. The prevailing wind is from the south-west.

2.3.13. No Air Quality Management Areas (AQMA) are in close proximity to the Site. The nearest isCowfold AQMA which is approximately 6.8km southwest.

2.3.14. There has been a steady downwards trend in annual mean $NO_2$ concentrations across the six $NO_2$ diffusion tube monitoring stations, operated by HDC, located within a 2km radius of the Site. The reductions during 2020 and 2021 that were attributed to the COVID-19 pandemic have been maintained and concentrations have reduced further between 2022 and 2024. The air quality standard for 1-hour mean $NO_2$ concentration has therefore been met. There are no $PM_{10}$ or $PM_{2.5}$ monitoring stations within a 2km radius of the Site. The closest $PM_{10}$ monitoring station recorded concentrations which met the air quality standard of 40µg/$m^3$ annual mean. The closest $PM_{2.5}$

monitoring station recorded concentrations which are predicted to meet the interim target of 12 µg/m$^3$ (deadline January 2028), and marginally exceed the stricter target of 10 µg/m$^3$ to be achieved by 2040.

**Noise and Vibration**

2.3.15. There are a number of Noise Important Areas (NIA) surrounding the site. The nearest is close to the north-west corner of the Main Site, just south of the A24. The existing baseline noise climate on the Main Site and North Site is dominated by road traffic noise from the A24. Additional contributions to background noise on the Main Site arise from traffic along Two Mile Ash Road to the west and Worthing Road to the east, while the South Site is affected by traffic from Bonfire Hill.

**Water Resources, Flood Risk and Drainage**

2.3.16. The Site lies entirely within Flood Zone 1, meaning that there is a probability of fluvial and tidal flooding of less than 0.1% per year.

2.3.17. The Site is classified as a Greenfield site, currently draining via natural overland runoff, land drains and infiltration. The destination for the northern catchment is the unnamed watercourse that bisects the catchment, and is a tributary of the River Arun, whereas the southern catchment drains to the Two Mile Ash Gill, a tributary of the River Adur.

2.3.18. The Site is not located within a Groundwater Source Protection Zone. However, the Groundwater Vulnerability is within the medium to low designation for the Site.

**Key Sensitive Receptors**

2.3.19. There are a number of sensitive receptors that have been identified as relevant to the Proposed Development and these have been taken into consideration within the assessment presented in **Volume 1, Chapters 6 to 15.** The key sensitive receptors are summarised in **Table 2-3** below.

**Table 2-3 – Key Sensitive Receptors**

| Topic | Receptor |
|---|---|
| Air Quality | 'Human receptors': within 250m of the Site boundary, or within 50m of the route(s) used by construction vehicles on the public highway, up to 250m from the site entrance(s). There are over 100 human receptors, including schools, medical centres and nursing homes within the study area;<br>During operation, receptors include 89 residential receptors, 36 sensitive receptors in the form of schools, medical centres, or nursing homes, and 15 future exposure receptors (receptors which fall within new development).<br>'Ecological receptors' within 50m of the Site boundary, or within 50m of the route(s) used by construction vehicles on the public highway, up to 250m from the site entrance(s);<br>Ancient Woodland south of Christ's Hospital Road;<br>Ancient Woodland at Sparrow Copse;<br>Ancient Woodland at High Wood;<br>Courtland Wood;<br>Denne Park<br>Newlane Wood; |

| Topic | Receptor |
|---|---|
| | Nuthom Wood, upper lag;<br>Smith's Copse / Coppice One;<br>Sparrow Copse (1);<br>Sparrow Copse (2); and<br>Two Mile Ash Gill. |
| Cultural Heritage | Grade II* Listed Buildings:<br>Great House Farmhouse, (NHLE reference: 1286023);<br>Dining Hall and Water Tower to North, School to South, Collannaded Wings to East and West (Chapel in West Wing) forming a Quadrangle, and 8 H Shaped Blocks (4 on each side of Dining Hall) at Christ's Hospital, (NHLE reference: 1027034);<br>Arts Centre and Music School at Christs Hospital, (NHLE reference: 1247243);<br>Grade II Listed Buildings:<br>Old Lodge to North East of Christ's Hospital, (NHLE reference: 1027033);<br>East Lodge and gateway, Christ's Hospital School, (NHLE reference: 1462525);<br>Sluetts, Christ's Hospital, (NHLE reference: 1027035);<br>Lanaways Farmhouse, Christ's Hospital, (NHLE reference: 1027036);<br>Lanaways Barn, (NHLE reference: 1119726);<br>Bodimans, Christ's Hospital, (NHLE reference: 1354171);<br>Sayers Farmhouse, Christ's Hospital, (NHLE reference: 1027037);<br>Barn to North West of Sayers Farmhouse, Christ's Hospital, (NHLE reference: 1027038);<br>College Farmhouse, (NHLE reference: 1354174);<br>Pond Farmhouse, (NHLE reference: 1027041);<br>Holy Innocents Church, (NHLE reference: 1259780);<br>Vicarage Cottage, (NHLE reference: 1027059); and<br>Southwater House, (NHLE reference: 1409948).<br>Non-Designated Assets:<br>Barns at Great House Farm;<br>Pump Cottage, Worthing Road;<br>The Hen and Chicken Public House, Worthing Road;<br>Ye Olde Barn, Worthing Road;<br>Christ's Hospital Station Goods Shed; and<br>Station Cottages at Christ's Hospital Station.<br>Archaeological Finds and Features:<br>Medieval manorial boundary; |

| Topic | Receptor |
|---|---|
| | Surviving historic hedgerows / shaws;<br>Relict medieval landscape; and<br>Historic routeways. |
| Ecology | Arun Valley SAC / SPA / Ramsar Site;The Mens SAC;<br>St Leonard's Park Ponds SSSI;<br>St Leonard's Forest SSSI;<br>Courtland Wood LWS, Sparrow Copse LWS and other undesignated ancient woodland within and adjacent to the Site;<br>Network of Secondary Woodlands, Hedgerows, Mature Trees and Treelines;<br>Veteran Trees;<br>Grassland;<br>Arable fields;<br>Bats;<br>Birds;<br>Invertebrates;<br>Network of streams, ditches and ponds;<br>[redacted]<br>Reptiles; and<br>Great Crested Newts. |
| Landscape and Visual | Natural England National Character Area 12 Low Weald;<br>West Sussex Landscape Character Area H1 Central Low Weald;<br>Horsham District Landscape Character Area H1 Southwater and Christ's Hospital Farmlands;<br>Overall Site Character;<br>Site Landform;<br>Site Land Use;<br>Site Vegetation;<br>Site Function;<br>Walkers within proximity using bridleways SOW-1662 and SOW-3568 (the Downs Link), footpaths SOW-1660, SOW-1658, SOW-1656, SOW-1655 and SOW-1628-3 through the Car Park Site and main Site;<br>Walkers within the local landscape from PRoW ITC-1651 to the west of the Site;<br>Transient users of Christs Hospital Station and car park ;<br>Transient users of Two Mile Ash Road;<br>Transient users of Worthing Road, Chessall Avenue and the roundabout junction to the A24 from Worthing Road; |

| Topic | Receptor |
|---|---|
| | Transient users of Marlpost Road and Church Lane;<br>Residents immediately adjacent to the Site;<br>Residents of Grade II* Listed Great House Farmhouse;<br>Residents of Grade II Listed College Farmhouse; and<br>Those at Grade II Listed Holy Innocents Church and Christs Hospital School. |
| Noise and Vibration | Residential properties to the east of the Main Site in Southwater on Worthing Road and surrounding minor roads;<br>Isolated residential properties surrounding Great House Farm at the south east of the Main Site;<br>Isolated residential properties to the south of the Main Site off Bonfire Hill;<br>Isolated residential properties to the west of the Main Site off Two Mile Ash Road and Marlpost Road; and<br>Residential properties to the south and west of the smaller area of the site at Christ's Hospital. |
| Socio-economics | Construction:<br>Construction phase employees working at the Site;<br>Operation:<br>Future residents and employees at the Proposed Development; and<br>Other residents and employees in the local areas who utilise the new and existing facilities and amenities at the Site and in the surrounding area. |
| Traffic and Transport | Slip Road going north from Worthing Road / Hop Oast Roundabout;<br>Worthing Road – A24 Slip Road Roundabout to Southwater Street;<br>Worthing Road – Southwater Street to Church Lane;<br>Southwater Street;<br>Church Lane;<br>Two Mile Ash Road;<br>Christ's Hospital Road;<br>Weston's Hill (north of Christ's Hospital Road);<br>Fulford's Road;<br>Blackbridge Lane, Horsham;<br>Hill Farm Lane, Horsham; and<br>The Downs Link where it crosses Worthing Road. |
| Water Resources, Flood Risk and Drainage | Flood Risk (all sources including; river, surface water, groundwater, fluvial, tidal and artificial):<br>Site Workers; and<br>End Users. |

| Topic | Receptor |
|---|---|
| | Receiving Watercourses:<br>The Gill, tributary of the River Adur; and<br>The River Arun headwaters.<br>Foul Water Disposal and Treatment:<br>SWS Water Foul Drainage Network. |
| Ground Conditions and Contamination | Site Workers;<br>End Users;<br>Soft Landscaping;<br>Built Environment;<br>Adjacent Land Users;<br>Groundwater; and<br>Surface Water. |
| Greenhouse Gases | Global climate impacted by the creation and release of GHG emissions. s |

## 2.4. FUTURE BASELINE

2.4.1. Schedule 4(3) of the EIA Regulations requires an outline of the likely evolution of the current state of the environment (baseline scenario) without implementation of the Proposed 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. Whilst there are considerable limitations to the predictions that can be made about baseline conditions at a future point in time, some assessments require projections to account for future change, such as traffic growth. This section summarises the future baseline that will be used to inform these elements of the assessment.

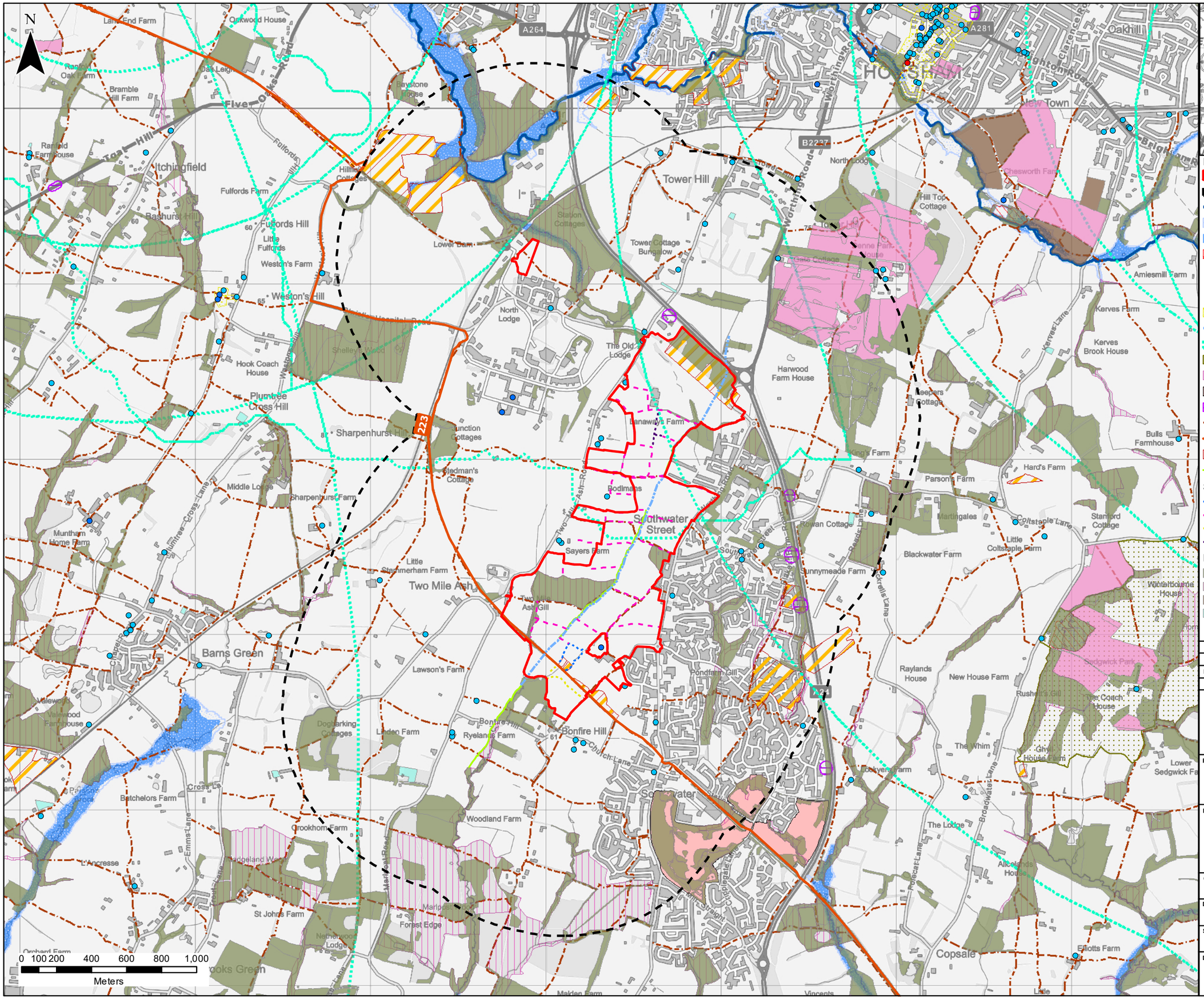
2.4.2. It is expected that, should the Proposed Development not proceed, the baseline conditions within the Site would effectively remain the same. This is because the Site is made up of largely managed agricultural fields and woodland, it can be assumed that the existing management regimes (e.g. grazing and crop rotation) would be continued.

2.4.3. Further detail on the future baseline conditions considered in elements of the assessment can be found in **Volume 1, Chapters 6 to 15**.

## 2.5. REFERENCES


- **Reference 2.1:** West Sussex County Council (2018). West Sussex Joint Minerals Local Plan. Available online at: https://www.westsussex.gov.uk/media/11736/mlp_adoption.pdf [Accessed September 2025].
- **Reference 2.2:** National Character Areas: South East England & London published on-line by Natural England: Low Weald (NCA 121). Available online at: https://nationalcharacterareas.co.uk/ [Accessed September 2025].
- **Reference 2.3:** Landscape Character Assessment, 2003, and Landscape Management Guidelines, West Sussex County Council. Available online at: http://www2.westsussex.gov.uk/environment/heritage/landscape_character_map.pdf [Accessed September 2025].

**Figure 2-1 - Environmental Features Plan**




**Legend**

- Site Boundary
- 1km Buffer
- Main Rivers
- Flood Zone 2
- Flood Zone 3
- Scheduled Monument
- Grade I Listed Building
- Grade II* Listed Building
- Grade II Listed Building
- Conservation Areas
- Old Anglo-Saxon Landscape Feature
- SSSI Impact Risk Zone
- Registered Parks and Gardens
- Ancient Woodland Inventory
- Country Park
- Noise Important Areas
- Public Rights of Way
- Sustrans National Route (Downs Link)
- Historic Landfill Sites
- Surviving Manorial Boundary

Surviving Tithe Boundary

- Important
- Medium
- Low
- Not important

Priority Habitats Inventory

- Deciduous woodland
- Good quality semi-improved grassland
- Lowland meadows
- Traditional orchard

CONTAINS OS DATA © CROWN COPYRIGHT [AND DATABASE RIGHT] [2022].

| P01 | AP | SP | NL | 10/02/2026 |
|---|---|---|---|---|
| FIRST DRAFT ISSUE | | | | |
| REVISION | DRAWN | CHECKED | APPROVED | DATE |
| DESCRIPTION | | | | |

PROJECT TITLE:

LAND NORTH-WEST OF SOUTHWATER

DRAWING TITLE:

FIGURE 2-1 - ENVIRONMENTAL FEATURES PLAN

CONFIDENTIALITY: PUBLIC

| DRAWN: | CHECKED: | APPROVED: | AUTHORISED: |
|---|---|---|---|
| AP | SP | SS | AH |

| SCALE @A3 SIZE: | DATE: | REVISION: |
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| 1:20,000 | 10/02/2026 | P01 |

DRAWING NUMBER:

70091497-WSP-ENV-004

\\uk.wspgroup.com\central data\Projects\70091xxx\70091497 - North Southwater, Phase 2\03 WIP\EN Environment\GIS\MXD\Figure 2-1 Environmental Features Plan.mxd

WSP House
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London
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# LAND NORTH-WEST OF SOUTHWATER, HORSHAM

# ENVIRONMENTAL STATEMENT VOLUME I, CHAPTER 3: DESCRIPTION OF THE PROPOSED DEVELOPMENT

**FEBRUARY 2026**

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# 3. DESCRIPTION OF THE PROPOSED DEVELOPMENT

## 3.1. INTRODUCTION

3.1.1. This chapter provides a description of the Proposed Development, including its main components, and a description of how the Proposed Development is likely to be constructed. The details in this description have been considered in the technical assessments (Technical Chapters 6 to 15).

## 3.2. OVERVIEW OF THE PROPOSED DEVELOPMENT

3.2.1. The applicant intends to submit an outline planning application for a residential-led development on the approximately 116.7ha site ("the Site") to provide the following:

*Outline planning application, with all matters reserved (except for primary access to the highway) for a phased development comprising: the demolition of existing buildings and the construction of residential dwellings (including affordable housing) (Use Classes C2 and C3); a mixed-use neighbourhood centre (Use Classes E and F); education facilities (Use Class F1(a)); business and employment floorspace (Use Classes B2, B8 and E(g)); redevelopment of existing agricultural buildings including construction of a building for community use (Use Classes E and F2); improvements to public rights of way; sports pitches; gypsy and traveller pitches/plots; public open space; landscaping, and associated infrastructure.*

### AIMS OF THE PROPOSED DEVELOPMENT

3.2.2. The Proposed Development aims to provide a landscape-led sustainable neighbourhood to complement and form a part of the existing village of Southwater, West Sussex..

3.2.3. The Proposed Development aims to provide high quality homes and infrastructure that are integrated into the rural landscape context, educational facilities for the local and wider community, employment opportunities, a neighbourhood centre, accommodation for older people, new sports facilities and local community space within reconditioned existing barn structures.

3.2.4. The Proposed Development aims to offer the opportunity to reflect the best principles of sustainable design, ensuring the highest quality of place-making to promote healthy lifestyles and enable climate change resilience for the future. The design life of the Proposed Development is 60 years.

### PLANNING CONTEXT

#### National Planning Policy Framework

3.2.5. The NPPF sets out the Government's planning policies for England and explains how these should be applied. It a primary material consideration in planning decisions; particularly in this case, as it offers the most up-to-date policy guidance, being most recently updated in December 2024.

#### Local Planning Context

3.2.6. The adopted development plan for Horsham District relevant to the Site comprises:

- Horsham District Planning Framework ('HDPF') (excluding South Downs National Park) (November 2015);
- Southwater Neighbourhood Development Plan ('SNDP') (June 2021); and
- West Sussex Joint Minerals Local Plan (July 2018, Partial Review March 2021).

3.2.7. The HDPF was adopted in 2015 and is therefore more than 5 years old. The Council is currently preparing a new emerging local plan which will replace the HDPF on adoption.

3.2.8. The emerging Horsham Local Plan 2023 – 2040 ('the Emerging Local Plan') (**Ref. 3.2**) was submitted to the Secretary of State for examination on 26 July 2024.

3.2.9. The Site is subject of a draft allocation in the emerging Local Plan under draft Policy HA3 for a mixed-use development.

3.2.10. The Emerging Local Plan (**Ref. 3.2**) is a material consideration in the determining of planning applications. However, it can only be attributed limited weight at this stage.

3.2.11. Furthermore, the Council produced the guidance document 'Shaping Development in Horsham District (2025)', which was endorsed at Cabinet on 17 September 2025. It was prepared to commit the Council to support development to help meet its identified needs in light of an absence of a housing land supply and historic under-delivery.

3.2.12. Paragraphs 5.6 – 5.9 of the guidance document outline how allocated sites within the emerging Local Plan should be considered in the event applications are bought forward prior to the emerging Local Plan being adopted. The Council clearly sets out that the proposed site allocations are based on robust assessments and can accommodate sustainable development. This position is supported by the fact that during examination, the inspector has found no concerns with any of the proposed draft allocations.

3.2.13. Therefore, the Council acknowledges that it will consider proposals on sites within the emerging Local Plan positively. In this regard, the development proposals have been prepared to align with the requirements of emerging Policy HA3.

3.2.14. The Site also includes an area identified in the adopted Southwater Neighbourhood Plan (**Ref. 3.3**), Policy SNP2, for the provision of 422 to 450 new homes and 8ha of public open space.

3.2.15. In relation to the Town and Country Planning Use Classes Order (2020) as amended (**Ref. 3.4**), the Proposed Development falls within the following Use Classes: B2 General Industrial; B8 Storage for Distribution; C2 Residential Institutions; C3 Dwellinghouses; E Commercial, Business, Service; F1 Learning and Non-Residential Institutions; and F2 Local Community.

3.2.16. A Planning Statement has been prepared by Nexus Planning and submitted as part of this planning application that frames the Proposed Development in the context of planning policy and guidance at all levels and provides details on the planning history of the Site. Where relevant, planning context will also be provided in technical chapters of this ES (technical chapters 6 to 15).

## 3.3. PLANS AND DESIGN ASSUMPTIONS

3.3.1. The Proposed Development is illustrated by a series of plans. The plans to be used for the purpose of the EIA, and therefore submitted in support of the planning application, are summarised below:

- **KPK-A019-0015 Illustrative Masterplan (Revision G)**
- **KPK-A019-0005 Boundary Plan (Revision G)**
- **KPK-A019-0006 Land Use Plan (Revision D)**
- **KPK-A019-0007 Movement Plan (Revision D)**
- **KPK-A019-0008 Density Plan (Revision E)**
- **KPK-A019-0009 Storey Heights Plan (Revision D)**
- **KPK-A019-0010 Phasing Plan (Revision D)**

- **KPK-A019-0011 Landscape Plan (Revision G)**

3.3.2. These plans are supported by a series of design principles in the **Design & Access Statement (DAS)** which provide supplementary details. These design principles are outlined below alongside any necessary assumptions for the purposes of the EIA.

## PLANNING APPLICATION BOUNDARY

3.3.3. All temporary and permanent activities relating to the construction and operational activities of the Proposed Development would be contained within the Site boundary as illustrated in **Figure 1.3: Site Boundary Plan**. The EIA is based upon this Site boundary.

## PROPOSED DEVELOPMENT LAYOUT AND LAND USE

3.3.4. The main elements of the Proposed Development are summarised above in **Section 3.2** of this chapter and are shown on the **Illustrative Masterplan**. The Illustrative Masterplan is provided for illustrative purposes only, though may be referred to as guidance when referring to particular assessments.

3.3.5. **Figure 3-1** provides illustrative visuals of how the Proposed Development may look, taking examples from previous Berkeley developments.

**Figure 3-1 - Illustrative visuals of how the Proposed Development may look**

3.3.6. Due to the outline nature of the design, maximum design parameters will be implemented as a 'worst case scenario', with the project description maintaining flexibility in defining the scope of the assessment.

3.3.7. **Table 3-1** provides the approximate Site areas of the different elements of the Proposed Development.

**Table 3-1 – Approximate Site Areas**

| Element of the Proposed Development | Land Use Class | Approximate Site Area (hectares) |
|---|---|---|
| **Residential** (up to 1000 homes) | C3 | 29ha |
| **Care home / specialist accommodation** (up to 80 homes) | C2 | 0.5ha |
| **Business & Employment Space** | B2, B8, and E(g) | 4.0ha |
| **Neighbourhood centre**- comprising commercial / retail and community space | E and F | 0.2ha |
| **Education** – a 1-Form-Entry (FE) Primary School (expandable to 2FE), nursery (minimum of 60 places), and 6FE (expandable to 8FE) secondary school. | Primary School & Nursery: Use Classes E(f) and F1(a)<br>Secondary School: Use class F1 (a) | 11 ha |
| **Gypsy and traveller pitches** (5 no.) | | 0.5ha |
| **Allotments** | | 0.43ha |
| **Public open space** (including sports pitches, ancient woodland, secondary woodland, tree belt zones, attenuation and local access infrastructure) | | 59ha |
| **Orchard Barns complex** (redevelopment / restoration of existing agricultural buildings * a new barn style flexible community use building(s)) | E and F2 | 0.75ha |
| **Highway Improvements** (new proposed primary & secondary roads – excludes areas of improvements to existing roads / junctions for masterplan access points) | | 6.25ha |
| **PRoW improvements** | | |
| **North Site (Christ's Hospital Station Car Park)** | | 1.35ha |

**Residential**

3.3.8. The predominant land use within the Proposed Development will be residential. Residential areas will include a range of housing types, including affordable homes to respond to local needs of the District, and enabling a sustainable community. As such the residential areas will be provided as a mixture of detached, semi-detached and terraced houses and apartments.

3.3.9. Approximately 1,000 residential Use Class C3 dwellings will be provided as part of the Proposed Development, the maximum number of storeys for residential buildings will be three storeys. The residential elements of the Proposed Development will cover an area of approximately 29 ha.

3.3.10. The design of the residential elements of the Proposed Development is based on block principles which aim to establish a positive connection between development blocks, street, buildings, public realm and landscape to ensure that these elements of the Proposed Development bond together coherently. An example of the block structure used for a residential area next to the spine road and a landscaped edge is shown respectively on **Figure 3-2** and **Figure 3-3** below**.**

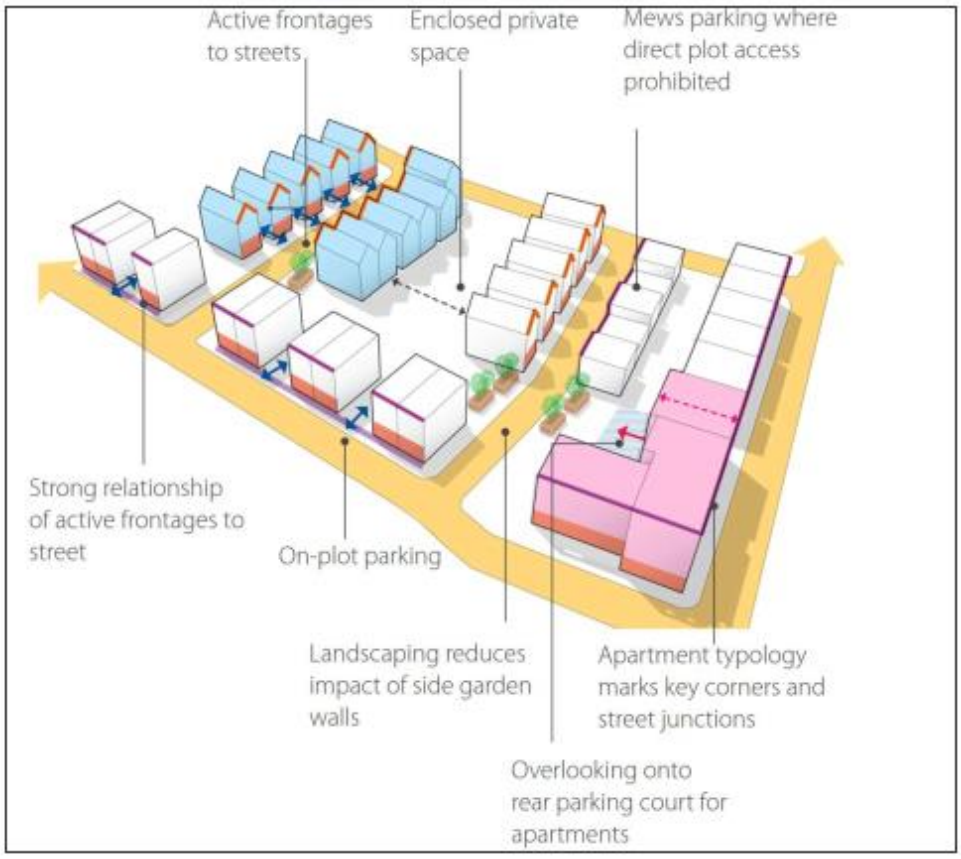



**Figure 3-2 - Illustrative Block Structure Adjacent to the Spine Road**

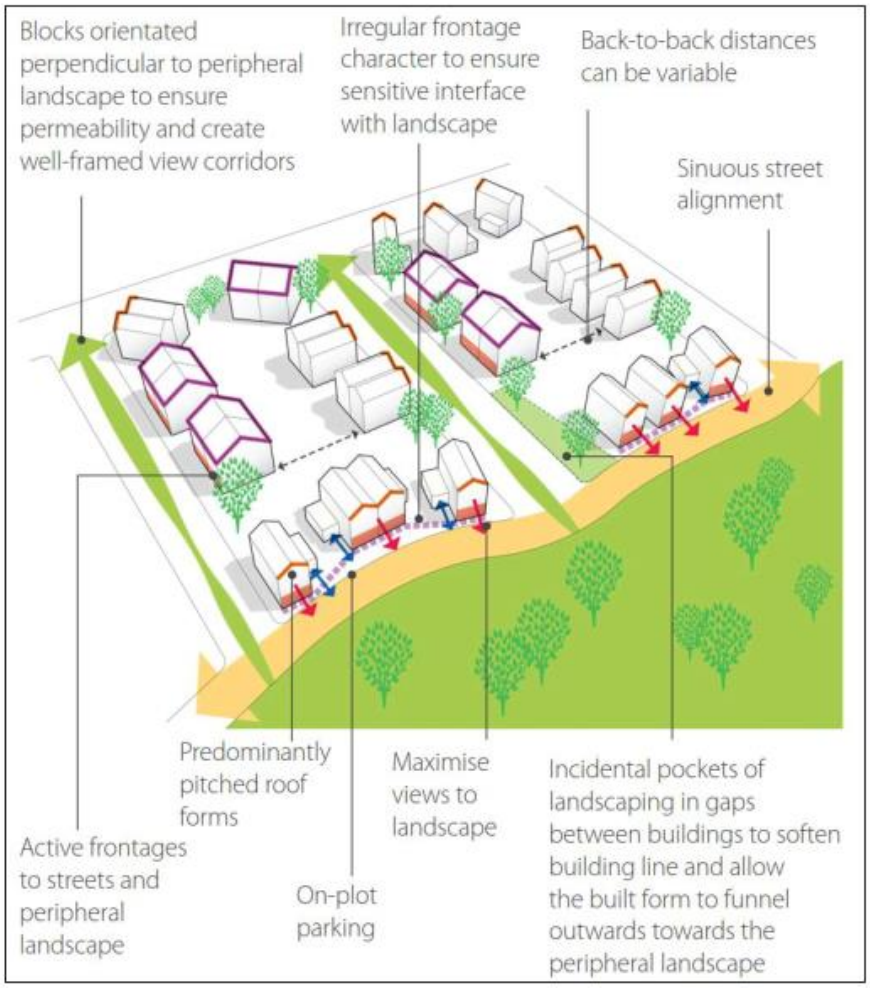



**Figure 3-3 - Illustrative Block Structure Response to the Landscape Edge**

**Care Home / Specialist accommodation**

3.3.11. C2 Care use up to 80 beds will be provided as part of the proposed development. The maximum building height is anticipated to be three storeys, covering an area of c.0.5ha.

**Employment Space**

3.3.12. The Proposed Development will include employment land. The employment land will cover an area of approximately 4ha, with a Gross Internal Area (GIA) of approximately 17,000m$^2$. Employment provision is mainly located to the north of the Site and will have flexibility to provide uses such as offices, industrial and / or storage and distribution space, including the Land Use Classes E, B2 and B8.

**Mixed Use Neighbourhood Centre**

3.3.13. A mixed-use neighbourhood centre which will be provided offering appropriate uses, including commercial, whilst retaining Lintot Square as the primary centre of Southwater. The commercial and community space will have a GIA of up to 2,000m$^2$ (which includes up to 1,500m$^2$ for retail).

In conjunction with the retail space, additional community and limited retail provision will be located adjacent to Great House Farm, reutilising and enhancing the Great House Farm's historic ancillary barn buildings.

**Leisure Facilities and Sports Pitches**

3.3.14. On the southern portion of the Main Site, near to the Downs Link, the Proposed Development will provide sports pitches which will include 2no. football pitches and 1no. cricket field covering approximately 2.45ha.

3.3.15. It should be noted that subject to agreement, sports pitch provision at the secondary school would provide around 4 additional pitches. These could be available for use after school hours by local sports teams

**Education (Nursery, Primary and Secondary School)**

3.3.16. The education facilities that are to be provided as part of the Proposed Development include a 1-form entry primary school (expandable to 2-form entry), a 6-form entry secondary school (expandable to 8-form entry), and a full-day care nursey which could accommodate a minimum of 60 places in total.

3.3.17. The nursery and primary school will cover an area of approximately 2ha, with the secondary school covering approximately 9ha.

**Gypsy and Traveller Pitches**

3.3.18. The Proposed Development will provide an area of approximately 0.5ha within the north of the Main Site to accommodate five permanent gypsy and traveller pitches.

**Open Space including Allotments**

3.3.19. Approximately 59ha of public open space will be provided as part of the Proposed Development, this includes:

- Amenity spaces such as play facilities;
- Parks and gardens;
- Natural and semi natural spaces such as parklands and woodland space;
- Creation of safe, inclusive, public spaces with specific consideration given to the needs of girls and young women;
- Places for children to enjoy natural play such as with willow dens, logs, and wooden climbing frames; and
- A walking trail (including trim trail) of approximately 5km providing opportunities for exercise is also proposed.

3.3.20. The Proposed Development will provide opportunity for a NEAP (Neighbourhood Equipped Area for Play), which will cater for children from 10-14+ years of age, and one LEAP (Local Equipped Play area), which will cater for children from 5 to 9 years of age, within the Site. Along with these designated play areas the masterplan focuses on the creation of playable landscapes, trim trail and incidental play areas within the Site. Illustrative visuals of how the amenity and natural spaces may look are shown in **Figure 3-4**

3.3.21. The Proposed Development will also provide new allotments for community growing, with an approximate area of 0.43ha. These will be provided according to requirement.

**Figure 3-4 - Illustrative visuals of how the amenity and natural spaces may look**

### Highway Improvements

3.3.22. The Site is well located for access to the strategic and local highway network. New road improvements and improvements for pedestrians and cyclists are anticipated as part of the Proposed Development - subject to further assessment work and consultation with WSCC including in relation delivery and fund arrangements, including:

- A connection from the Proposed Development to the Hop Oast Roundabout;
- The introduction of a fully signalised Hop Oast Roundabout improvement to allow safe crossing of pedestrians and cyclists north to Horsham;
- Five new vehicular accesses to the Site in order to spread traffic evenly across the development;
- Public Rights of Way within the Site will be retained and enhanced;
- The provision of a sustainable internal road network; and
- Improved links between the Proposed Development and Christ's Hospital station to help promote sustainable travel.

### Station Car Park

3.3.23. Following surveys that were undertaken at the Christ's Hospital railway station car park, an assessment to identify the requirement for additional car parking space at the Christ's Hospital railway station car park was undertaken. This assessment concluded that the existing capacity of the car park will be sufficient to accommodate the existing maximum car parking demand combined with the projected additional car parking at the Christ's Hospital railway station car park as a result of the Proposed Development. Therefore, it is not proposed to deliver the additional parking provision.

However, an arrangement has been identified that sets out how this could be delivered / secured in the future should this be required, subject to further assessment.

3.3.24. Further information is provided in the Transport Assessment and Travel Plan are provided as **Volume 2, Appendix 11.1** and **11.2** respectively.

## BUILDING MATERIALS / FAÇADE(S)

3.3.25. The proposals will aim to demonstrate a "fabric first" approach to the construction of the built development. A "fabric first" approach prioritises reducing energy demand through the building materials or 'fabric' before relying on building services or renewables. This can be achieved through means such as enhanced insulation, airtightness, minimising thermal bridging (gaps in insulation where heat can escape), high-performance window glazing, and good passive design (orientation, shading, ventilation); therefore, improving overall operational energy performance.

### Residential

3.3.26. The selection of materials for the residential areas is likely to follow the themes below:

- Earthy and natural materials to reflect and complement those of the existing context; and
- Ground materiality to provide natural textures that merge easily with the existing context.

### Employment and Education

3.3.27. The employment area of the Proposed Development will comprise robust and easy to maintain façade materials such as durable cladding (e.g. aluminium, steel, high-pressure laminate panels) which require less frequent cleaning, painting or repairs over time.

### Barn Complex

3.3.28. This area will include the reuse and / or re-provision of existing historic barn type buildings near to Great House Farmhouse. The main aims for design that will be used within this area will be to reflect on the particular sensitivities and materiality of the area, including the one of Great House Farmhouse, and complement with materials that may include:

- Natural timber claddings;
- Stone or timber gabled façades;
- Natural and earthy materials on ground;
- Buildings that are submissive to their natural green environment; and
- Modern materials like glass or metal frames which are less dominant.

### Gypsy and Traveller Pitches

3.3.29. The gypsy and traveller pitches will likely include the following within their design:

- Sustainable, natural surfaces and façade materials;
- Green outlook for all pitches; and
- Ground materiality to provide natural textures that merge easily with the existing context.

### Sports Pitches

3.3.30. The sports pitches will likely include the following within their design:

- Consolidation within strong landscape buffers;
- Non-lit pitches;

- Positioned to build on existing sporting context and supporting a wider health and activity hub; and
- Natural surfaces such as grass and accommodated within open grassland.

## OPERATIONAL ACCESS AND MOVEMENT

### Vehicular Access and Movement

3.3.31. As shown in the **Movement Parameter Plan**, it is envisaged that five new vehicular access points will be provided for entry to the Proposed Development from the existing highway network to spread traffic evenly across the development. These are two accesses on Worthing Road, one from the northern part of Chessall Avenue, an access to the west onto Two Mile Ash Road and finally a Gypsy and Traveller access to the south east of the new northern roundabout. A new link road between the Proposed Development and the Hop Oast roundabout will be constructed.

3.3.32. Additional, secondary, vehicular access to the Main Site will also be provided from the existing highway network at the location of the existing agricultural access on Two Mile Ash Road, to the west of the Main Site (which will be improved as part of the Proposed Development) and from the western side of Chessall Avenue.

3.3.33. Bus stops will be considered within the Proposed Development that will likely include a shelter, seating, lighting, appropriate kerbs and provision for real time information.

3.3.34. The majority of the vehicular routes within the Proposed Development will all include street trees or grass or planted verges.

### Parking Facilities

3.3.35. Car and cycle parking provision will be considered at the reserved matters stage; however it is envisaged that parking provision for each land use on the Site would be provided fully in accordance with local standards applicable at the relevant time.

3.3.36. Electric Vehicle Charging Points will be provided on site. The exact quantum and type of electric vehicle charging infrastructure will be determined at the reserved matters stage through discussions with WSCC / HDC and with reference to the latest relevant policy and best practice guidance at that time. This includes the Building Regulations Part S (June 2022), relating to electric vehicle charging infrastructure. Residential communal car parks and commercial communal car parks will be served by the appropriate percentage in accordance with relevant policy. Secure and weatherproof cycle storage will also be provided.

### Non-vehicular Access and Movement

3.3.37. A trim trail (a series of outdoor equipment designed to promote physical activity and play among children and adults) of approximately 5km in length will be provided across the Site as part of the movement strategy, linking the key elements of the Proposed Development for pedestrians and cyclists. The trim trail and improved PRoW within the Site will encourage active travel and exercise with accessible footpaths and themed trails. Fitness elements along the trail will be include such as push up bars, balancing beams, sit ups, ladder walk suited to all age groups. The trim trail will likely provide connections with the existing PRoW network and the Downs Link.

3.3.38. The Proposed Development will retain the improvements to Bridleway 1662, where possible, and the Proposed Development will enhance the route further. As the Bridleway crosses the spine road an appropriate crossing will be provided to offer a safe route for all users. Furthermore, visibility of

the route will be enhanced to provide natural surveillance, which is often utilised in design for creating safe spaces by increasing visibility of an area by avoiding narrow passageways and hidden corners, large walls or fences and limited exits and entries, as well as providing a good visual connection such as large windows or windowed stairwells between buildings and public environments **(Ref 3.5)**, .

3.3.39. The Proposed Development will deliver enhancements to footpaths 1660, 1658, 1656 and 1655 (to the intersection of the Downs Link), suitable for forecast increase usage from on-site users as a result of the Proposed Development. This will include a range of measures including improved surfacing, visibility to provide natural surveillance and widening in feasible locations to encourage usage.

3.3.40. The surface of the Downs Link, which runs within the southern section of the Main Site between Southwater Village Centre (Lintot Square) and Two Mile Ash Road, will also be improved within the Site itself, as well as potential funding towards improvements as it extends northwards towards Christ's Hospital. It is also anticipated that funding will be provided towards upgrading the surfacing where necessary to Bridleway 1642.

3.3.41. The surfaces for pedestrians and cyclists will be suitable for wheelchair users, for example incorporating dropped kerbs and crossing points with associated tactile paving.

3.3.42. The spine road will also include dedicated cycle lanes and footpaths alongside the carriageway.

### PROPOSED ELEVATIONS

3.3.43. The Proposed Development will mainly comprise two, two and a half and three-storey houses and some apartments. There will be some buildings which are up to three storeys in height associated with the community and retail space, employment and some residential land uses.

3.3.44. The confirmed height for the buildings associated with the different land uses within the Proposed Development will be developed during detailed design.

### PROPOSED EXCAVATION EXTENTS

3.3.45. Some excavation within the Site will be required to facilitate the remodelling of the Site for landscaping and levelling.

3.3.46. Prior commercial extraction is not considered necessary at the Site and therefore the only material movements would be the removal of overburden that is likely to be removed during the development plateau creation alongside excavation for any proposed drainage solutions and utility corridors. Soft landscaping will be undertaken across the Proposed Development, and material excavated can be reused within the development if shown to be geotechnically and chemically suitable.

3.3.47. Any excavation, movement and stockpiling of soils must be undertaken in line with current guidance to protect the structure of the soils and prevent mixing and degradation of the soils. A Soil Resource Plan will be put in place for the Site.

3.3.48. Additional information can be found in **Volume 1, Chapter 14 Ground Conditions and Contamination**, and the **Preliminary Mineral Resource Assessment.**

## PROPOSED DEMOLITION

3.3.49. In order to facilitate the construction of the Proposed Development, barns associated with a dairy farm in the north of the Main Site are to be demolished. In addition, some of the barns near to Great House Farmhouse in the south east of the Main Site will be demolished.

3.3.50. A Demolition Plan (KPK0A019-0013 – Buildings Proposed to be Demolished (Rev B)) is included in support of this planning application outlining the above buildings to be demolished.

## PROPOSED DRAINAGE

3.3.51. The drainage strategy for the Site has been designed in accordance with local planning guidance. A Flood Risk Assessment and Outline Drainage Strategy has been prepared for the Proposed Development, which is included within this ES within **Volume 2, Appendix 13.1**. The Foul and Surface Water Drainage Strategy is described below in Section 3.4 of this Chapter.

3.3.52. Further information regarding the drainage for the Proposed Development is provided in **Volume 1, Chapter 13: Water Resources, Flood Risk and Drainage** and **Volume 2, Appendix 13.1** of this ES.

## EMISSIONS, WASTES AND EFFLUENTS

3.3.53. Potential impacts to local air quality have been assessed and further information can be found within **Volume 1, Chapter 6: Air Quality**. Potential noise impacts from the Proposed Development have been assessed and further information can be found within **Volume 1, Chapter 10: Noise and Vibration**.

### Resources, Materials and Waste

3.3.54. Sustainable construction, materials and resource efficiency will be progressed through a practical, deliverable approach. This includes embedding circular economy principles where possible, selecting materials with responsible sourcing credentials, providing appropriate waste and recycling facilities, and managing construction impacts through best practice site controls. The project will register with the Considerate Constructors Scheme and target a “Very Good” performance level.

3.3.55. Circular economy principles will be embedded where practicable, such as:

- Responsible sourcing (including certified timber) and lower-impact material choices;
- Domestic and construction waste managed with appropriate segregation and facilities.

3.3.56. Waste practices will follow the above approach, whilst linking in the circular economy principles in line with HDCs 2024 Climate Action Strategy (**Ref 3.6**) and implementing new food waste collections for residents.

3.3.57. Likely volumes of residential and commercial waste from the Proposed Development will be calculated at the detailed design stage from available benchmarking data to define expected area requirements for the storage of refuse, recycling, and food waste (where applicable).

3.3.58. The Proposed Development will not prevent or prejudice the continued operations of the Hop Oast/Horsham Household Waste Recycling Site (safeguarded waste site), aligning with Policy W2 of the West Sussex Waste Local Plan 2014 (**Ref 3.7**). At reserved matters stage and detailed design, a Waste Infrastructure Safeguarding Assessment will be produced.

3.3.59. BS 5906:2005 will be used as guidance to identify the potential volumes of waste and storage capacity requirements from the different uses across the Site.

3.3.60. The measures within the Proposed Development for managing waste are summarised in **Section 3.4** of this chapter.

**Foul Water Effluent**

3.3.61. **Table 3-2** below details the estimated flows generated by each catchment area (the catchment areas are described below in **Section 3.4** of this chapter) and the proposed discharge rate from the northern and southern terminal pumping stations to the Southern Water Services (SWS) public network.

**Table 3-2 – Summary of Catchment Foul Flow Rates and Final Discharge Rates**

| Catchment | Catchment Area (Ha) | Total Generated Foul Flow Rate (l/s) | Pumped Flow Rate at Terminal Pumping Station |
|---|---|---|---|
| North | 34.17 | 14.3 | 7.15 |
| South | 41.22 | 34.4 | 17.2 |
| **Total site** | 75.39 | 48.7 | 24.35 |

3.3.62. Further information regarding the foul water effluent from the Proposed Development is provided in **Volume 1, Chapter 13: Water Resources, Flood Risk and Drainage** and **Volume 2, Appendix 13.1** of this ES.

## PROPOSED NEW STATUTORY SERVICES CONNECTIONS

3.3.63. New connections are required for utility networks across the Proposed Development. For further details of the Proposed Development regarding statutory service connections, please refer to the **Utilities Assessment**, prepared by Premier Energy, which has been prepared separately and is submitted as part of the planning application. Further details on connections to utility networks will be provided as the design of the Proposed Development progresses.

## EMBEDDED (PRIMARY) MITIGATION

3.3.64. **Table 3-3** below describes the proposed 'embedded' (environmental design) mitigation measures that are considered to be an inherent part of the Proposed Development i.e. the project design principles adopted to avoid or prevent adverse environmental effects. These embedded (primary) mitigation measures should not be confused with additional (secondary and tertiary) mitigation proposed in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment, which are described within each technical chapter.

**Table 3-3 – Embedded (Environmental Design) Mitigation Measures**

| Environmental Factor to which the Embedded (Environmental Design) Mitigation Measure Relates | Embedded (Environmental Design) Mitigation Measure |
|---|---|
| Cultural Heritage | Green buffers and corridors are proposed around sensitive areas of the Site to preserve some sense of rurality, including within the vicinity of Great House Farm.<br><br>A lower density of development and appropriate storey heights have been incorporated into the design of the Proposed Development in areas of heritage sensitivity, for example the vicinity of Great House Farm and the western edge of the Main Site.<br><br>The architecture of the residential parcels close to Great House Farm will be carefully considered and tailored to the sensitivity of the Grade II* Listed Building. The local vernacular and the particular sensitivities of the area will be studied to inform the facades within the residential elements of the Proposed Development.<br><br>Good connections to Great House Farm will be included in the design of the Proposed Development via pedestrian and cycle routes, allowing new opportunities for users of those routes to experience and appreciate its architectural and historic interest. Additionally, views of Great House Farmhouse will be enhanced through the demolition of large modern barns in close proximity to the listed building.<br><br>A series of measures have been included in the design to reflect the medieval landscape associated with Great House Farm, minimising breakthroughs for historic hedgerows as far as possible and including structured landscape such as planting in square frame, ponds, manicured lawn and orchards.<br><br>Further information is provided within **Volume 1, Chapter 7: Cultural Heritage** of this ES. |
| Biodiversity and Landscape and Visual | A variety of wetland habitats will be created as part of the Proposed Development. These will range from permanently wet to seasonal features and will be designed to maximise their value to wildlife including through aquatic planting. Where possible, features will have gently sloping / shelved margins to support the establishment of measures such as reedbeds and, within drier features, grassland will be established using a wet grassland mix.<br><br>The design of the masterplan layout of natural and formal corridors, existing and proposed, has aimed to improve the Site's connections to surrounding areas, including routes into neighbouring Christ's Hospital and Southwater Village.<br><br>The SuDS system also presents several ecological opportunities to establish a range of micro-habitats associated with varying depths and frequencies of inundation which will be particularly beneficial to invertebrates, amphibians, a number of bird species. |

| Environmental Factor to which the Embedded (Environmental Design) Mitigation Measure Relates | Embedded (Environmental Design) Mitigation Measure |
|---|---|
| | Grassland habitats with wildflower species for pollinators are likely to be created to enhance biodiversity and provide attractive areas for recreation and, to further encourage awareness of the natural environment.<br><br>A buffer zone using planting comprising of native trees, scrub and meadow grassland has been created around the ancient woodland of Courtland Wood (including Two Mile Ash Gill) and Smith's Copse which are within the Main Site.<br><br>Natural screening is included in the design of the Proposed Development around the parcels surrounding Great House Farmhouse to minimise the effect on the setting of and visual corridors to listed building.<br><br>A green buffer will be included on the western edge of the Main Site along Two Mile Ash Road to soften and integrate the Proposed Development into the surrounding areas and create new opportunities for wildlife.<br><br>Green corridors within the Site will be enhanced to allow wildlife to travel more freely within and around the Site.<br><br>Existing hedgerows within the Site will be protected and enhanced throughout the Proposed Development.<br><br>Existing trees and hedgerows will be retained wherever possible throughout the Proposed Development.<br><br>Bird and bat boxes will be provided within the woodland edge and other retained trees across the Site.<br><br>Further information is provided below within Section 3.4, Biodiversity Strategy and Landscape Strategy, and **Volume 1, Chapter 8: Ecology** and **Chapter 9: Landscape and Visual** of this ES. |
| Noise and Vibration | The location of the least sensitive land use type (employment) was placed adjacent to the A24 to avoid impacts from traffic noise of the A24 to sensitive land use types (for example residential) which will benefit from the increased distance from the A24 and screening afforded by the employment land buildings.<br><br>Further information is provided within **Volume 1, Chapter 10: Noise and Vibration** of this ES. |
| Socio-economics | The masterplan aims to include a variety of housing typologies to suit a variety of residents and needs.<br><br>Further information is provided within **Volume 1, Chapter 11: Socio-economics** of this ES, |
| Traffic and Transport | A series of highways improvements and improvements to the PRoW network within and surrounding the Site are included within the design of the Proposed Development, which are |

| Environmental Factor to which the Embedded (Environmental Design) Mitigation Measure Relates | Embedded (Environmental Design) Mitigation Measure |
|---|---|
| | summarised in the Operational Access and Movement section within Section 3.3 of this chapter.<br><br>The design of the primary road, including the positioning of the proposed northern Main Site access (close to the A24 Hop Oast roundabout) and additional accesses further south will assist in diverting traffic away from Worthing Road.<br><br>It is envisaged that neighbourhood streets, lanes and other minor roads within the Proposed Development will have the capacity to accept shared surface areas to balance and support pedestrian and cyclists.<br><br>A trim trail of approximately 5km across the Site will link the key elements of the Proposed Development for pedestrians and cyclists.<br><br>A network of primary, secondary and tertiary streets and shared surface environments will be provided across the Main Site, each of which will be suitably designed to accommodate pedestrians, cyclists and vehicular users as appropriate.<br><br>Car parking would be provided on-site fully in accordance with relevant local standards. The car parking strategy will meet the Proposed Development's demand on-site at all times without discouraging alternative transport options. The car parking strategy would be addressed in full at the reserved matters stage.<br><br>Electric vehicle charging will be provided across the Proposed Development. The exact quantum and type of provision will be determined at the reserved matters stage with reference to the latest relevant policy and best-practice guidance at that time.<br><br>Cycle parking would be provided across the Proposed Development, fully in accordance with local standards.<br><br>The primary road will incorporate comprehensive, high-quality walking and cycling infrastructure to LTN 1/20 standards and would connect to adjoining walking and cycling routes within the Site and to off-site areas.<br><br>A number of key off-site walking and cycling routes to destinations such as Horsham and Christ's Hospital will be enhanced by way of infrastructure improvements that will be delivered as part of the Proposed Development, or by way of a contribution to WSCC towards the delivery of these schemes.<br><br>Further information is provided below within **Section 3.3, Operational Access and Movement**, and **Volume 1, Chapter 12: Traffic and Transport** of this ES. |
| Water Resources, Flood Risk and Drainage | The Surface Water Drainage Strategy for the Proposed Development demonstrates that the surface water drainage provision for the Site will be designed to accommodate surface water run-off for all events up to and including the 100-year return period plus 45% climate change allowance. |

| Environmental Factor to which the Embedded (Environmental Design) Mitigation Measure Relates | Embedded (Environmental Design) Mitigation Measure |
|---|---|
| | Surface Water Drainage for the Proposed Development will include attenuation storage basins, some of which will be permanently wet to enhance biodiversity.<br>Further information is provided below within Section 3.3 and 3.4, Proposed Drainage and Drainage Strategy respectively, and **Volume 1, Chapter 13: Water Resources, Flood Risk and Drainage** of this ES. |
| Ground Conditions and contamination | The Proposed Development will seek to achieve an overall earthworks balance on the Site, reducing the need for importing of material.<br>Further information is provided within **Volume 1, Chapter 14: Ground Conditions and Contamination** of this ES. |

## 3.4. PROPOSED STRATEGIES

3.4.1. A number of strategies have been prepared to support the planning application. Notable strategies, relevant to the EIA, are summarised in the paragraphs below.

3.4.2. Given the outline nature of the application, the Secure by Design strategy establishes the principles and commitments that will be taken forward. Detailed design, including lighting strategy, boundary details, access control, door / window specifications and management arrangements, will be progressed at reserved matters stage and aligned with the relevant Secure by Design guidance, stakeholder input and any site-specific considerations arising through the detailed design process.

3.4.3. Some of the below strategies will be developed at reserved matters and detailed design.

### DENSITY STRATEGY

3.4.4. The density strategy, in terms of height and massing, aims to distribute densities so they are appropriate to the existing setting and to support the creation of distinct neighbourhoods. It also provides the necessary flexibility to deliver diverse built-form character and streetscapes. The location of areas of different densities (lower, medium and higher density) within the residential areas of the Proposed Development is shown on the **Density Plan** which supports this application and summarised below:

- Higher density: 45dph-94dph
  - Focused around the neighbourhood centre, where a more compact form can support walkability and local services. This density range may include some apartment buildings and mixed-use blocks, with potential commercial / community uses at ground level.
- Medium density: 30dph-45dph; and
  - Predominantly located across the eastern parts of the Proposed Development and is expected to comprise a mix of terraced and semi-detached homes, with limited apartments where appropriate.
- Low density: 20dph-30dph

- Positioned in more sensitive areas, creating a gentle transition at the Site edges and where there are stronger landscape and heritage considerations, including the surroundings of Great House Farmhouse, as well as Courtland Wood, Smith's Copse and the Downs Link.

3.4.5. The Density Strategy will be developed upon at reserved matters stage.

## DRAINAGE STRATEGY

### Surface Water

3.4.6. It is proposed to store the surface water run-off from the Proposed Development prior to discharge at a restricted rate via a series of storage basins.

3.4.7. Each basin will collect surface water from its designated sub-catchment and discharge directly to their final discharge locations which include existing watercourses and an existing land drainage ditch. Some of the basins / ponds will receive overflow surface water runoff from the previous basin in the network.

3.4.8. The strategy has also been designed to avoid adverse effects on the hydrology of the ancient woodland habitats within and adjacent to the Site.

3.4.9. Further information regarding the drainage for the Proposed Development is provided in **Volume 1, Chapter 13: Water Resources, Flood Risk and Drainage** and **Volume 2, Appendix 13.2** of this ES.

### Foul Water

3.4.10. The proposed Foul Water Drainage Strategy will involve the foul water from the Proposed Development being pumped off-site by a number of internal pumping stations to adjacent SWS foul sewer networks, at points of connection currently proposed / identified and to be agreed with SWS.

3.4.11. Further information regarding the drainage for the Proposed Development is provided in **Volume 1, Chapter 13: Water Resources, Flood Risk and Drainage** and **Volume 2, Appendix 13.2** of this ES.

## LANDSCAPE STRATEGY

3.4.12. The design of the Proposed Development has sought to retain boundary features such as hedgerows and trees wherever possible. Habitats of higher ecological interest such as the ancient woodland and other areas of woodland within the Site, will be retained and complementary habitats would be created as part of the Proposed Development's landscape design. Courtland Wood and Smith's Copse will form part of a woodland corridor, and a network of hedgerows and trees will be created across the Site to maintain a mature landscape, preserve its historic interest, and allow for the continued presence and movement of wildlife across and around the Site.

3.4.13. The landscape strategy incorporates provision for formal and informal open spaces, natural green spaces, sports pitches, allotments and play areas to serve the new development.

3.4.14. The landscape strategy aims to maximise direct access to nature and views to nature for a year-round contact with the outdoors for the future users of the Proposed Development and encourage active travel and exercise with accessible footpaths and themed trails.

3.4.15. The landscape design for the Proposed Development is shown on the **Landscape Parameter Plan**.

3.4.16. The Lighting Strategy will outline the proposed lighting requirements for both construction and operation of the Proposed Development.

3.4.17. The strategy will cover the following:

- Lighting Criteria;
- Vehicular Route Lighting;
- Private Drives and Pedestrian Routes; and
- Open Spaces

**Construction**

3.4.18. During the construction phase of the Proposed Development there may be the need to provide temporary lighting for construction tasks and security.

3.4.19. Lighting provided during construction would generally be standard fixings and equipment. Working areas may be surrounded by hoarding onto which lighting may be attached. Such lighting may perform directional and security tasks.

3.4.20. During construction of the Proposed Development, lighting will be mounted either on lighting columns or attached to temporary buildings and likely to be limited to 8m mounting heights. The design of construction lighting should be carried out in accordance with BS EN 12464-2:2014 and any specific industry guidance. The Construction Environmental Management Plan (CEMP) will include details of temporary lighting.

**Operational**

3.4.21. As the Proposed Development becomes operational, lighting will be required during hours of darkness to provide a safe and attractive environment for users to aid safe movement and provide a feeling of security and well-being.

3.4.22. Lighting considerations throughout the Proposed Development will be designed to meet the needs of the various land use areas, including residential, employment, education, sports pitches, and landscape, green, and ecological areas, and include the following design aspects:

- Vertical lighting (street lights) along primary streets;
- Sensitive lighting at low levels in the proposed open spaces and walking routes, allowing movement and creating atmospheric and safely lit public spaces;
- Compliance with BS 5489-1 (2013) Code of Practice for the Design of Road Lighting, BS 8300 (2018) Design of an Accessible and Inclusive Built Environment, and Part L Building Regulations (2014) LENI method;
- Use of luminaires with very low and no upward light distribution to limit contribution to sky glow and impacts upon environmentally sensitive areas such as bat foraging routes and roosting areas;
- Existing dark areas to be maintained where possible;
- Column-mounted luminaires between 4-6m tall along vehicular routes, with enhanced level of light provided at the entrance to the Site;
- Low-level illuminated LED bollards along private drive areas and pedestrian routes, at 0.9-1m mounting height;

- Provision of additional lighting where required within employment areas, for storage or vehicle loading areas;
- Lighting for safety and security at the proposed schools within walking routes, vehicle and bicycle parking, and building perimeters and Multi-Use Fame Areas (MUGA) (should these be in use during the hours of darkness);
- Non-lit, or low-lit sports pitches (if required for night-time use); and
- Uplighting to the feature trees within open spaces, with strip lighting to wall edges and illuminated bollards along pedestrian routes.

3.4.23. For further details of the Proposed Development regarding lighting, please refer to the **Design and Access Statement** as part of this planning application, and the Lighting Strategy which will be produced during detailed design.

## BIODIVERSITY STRATEGY

3.4.24. A variety of wetland habitats will be created as part of the Proposed Development, either as part of the sustainable urban drainage systems or as stand-alone features. These will range from permanently wet to seasonal features and will be designed to maximise their value to wildlife including through aquatic planting within permanently wet features. Where possible, features will have gently sloping / shelved margins to support the establishment of measures such as reedbeds and, within drier features, grassland will be established using a wet grassland mix.

3.4.25. Grassland habitats with wildflower species for pollinators are also likely to be created to enhance biodiversity and provide attractive areas for recreation and, to further encourage awareness of the natural environment. The Proposed Development will likely provide integrated signage and information boards in order to allow the future users of the Proposed Development to learn about the Site's woodlands, birds and wildlife.

3.4.26. The SuDS system also presents several ecological opportunities to establish a range of micro-habitats associated with varying depths and frequencies of inundation which will be particularly beneficial to invertebrates, amphibians, a number of bird species.

3.4.27. Through landscape-led design and ecological considerations for enhancement and protection, the Proposed Development will achieve a minimum Biodiversity Net Gain score of +10%.

3.4.28. Further information regarding the protection of biodiversity during the construction and operation of the Proposed Development is provided in **Volume 1, Chapter 8: Ecology**.

## WASTE MANAGEMENT STRATEGY

### Residential Waste

3.4.29. Houses with gardens would be provided with an area for composting bins and an area of hard standing at the boundary of the property which is accessible from the highway for presenting wheeled bins without access issues.

3.4.30. Communal bin stores will be designed to the standards within BS5906:2005 Waste management in buildings - Code of practice. They will contain 1,100 litre Eurobins for refuse and recycling and 240 litre wheeled bins for food waste.

### Commercial Waste

3.4.31. In general, waste generated within the various commercial land uses should be stored within local waste storage areas for management by a facilities management or estates team. Alternatively, some land uses could provide internal waste storage areas within their tenanted area as part of the fit-out stage.

3.4.32. These waste storage areas should have space dedicated for refuse, recycling and where appropriate, food waste and hazardous waste streams.

3.4.33. It is recommended that at least 50% of the allocated waste storage space should be dedicated to the storage of segregated materials for recycling.

3.4.34. For further details of the Proposed Development regarding waste where applicable, technical chapters have outlined appropriate measures for the management of waste. Following the submission of this planning application, it may be required that an Outline Waste Management Strategy is produced as part of a planning condition. .

## ENERGY STATEMENT

3.4.35. During the prolonged construction timeframe of the Proposed Development, policies and regulations are anticipated to change and escalate, enabling low-carbon developments to be delivered and the impacts of climate change to be mitigated.

3.4.36. The Energy Statement aims to ensure a standards-based approach is adopted for the Proposed Development, as well as accounting for a development timeline that is likely to span multiple changes in regulation and policy. As such, key design principles and assessment parameters which will provide flexibility for the Proposed Development so that the most appropriate technology at the time of delivery can be provided to meet the changing policy and regulatory requirements. The Energy Statement includes the following key measures:

- Installation of energy efficient design principles of energy efficient design principles, such as high standards of building fabric, form factor analysis, and orientation of glazed areas;
- Careful alliance of the Energy Statement with overheating mitigation. As one of the central aims for the Applicant is to deliver high-quality buildings for both present day and future conditions, both energy and overheating measures must be considered in tandem to best deliver this;
- This will be a gas-free site and all homes are expected to have heat pumps and photo voltaics. However, the Energy Statement will ensure flexibility is retained in regard to technological choices. In particular, this relates to how buildings are heated and the installation of building-level renewable power systems; and
- Consideration of larger energy infrastructure for the Site.

3.4.37. Each phase of the Proposed Development will detail a specific energy strategy within each reserved matters application.

3.4.38. A significant reduction in operational regulated $CO_2$ emissions will likely be delivered for all homes within the Proposed Development. The details of how this will be achieved will be within the strategies which will be set out within the reserved matters applications. The vast majority of homes are likely to be provided with renewable technologies, which in most cases will be heat pumps or Photovoltaic panels.

3.4.39. There will also be electric vehicle charge points provided as part of the Proposed Development.

3.4.40. For further details, please refer to the **Outline Energy Statement** which has been prepared separately as part of the planning application.

### CLIMATE CHANGE RESILIENCE

3.4.41. The UK's climate is changing. Since the 1980s the UK climate has been warming at a rate of approximately 0.25°C per decade, and the last three years have been in the UK's top five warmest on record. The UK's climate has also become steadily wetter since the 1980s with the most recent decade (2015–2024) 2% wetter than 1991–2020 and 10% wetter than 1961–1990. Weather extremes are becoming more frequent, with the all-time highest maximum temperature recorded in the last decade, and the period between October 2023 to March 2024 recording over 150% of the 1991–2020 average rainfall, resulting in widespread flooding. Other climate change trends such as drought, wind, sea level rise and flood risk, snow and humidity are predicted to change **(Ref 3.8).** The EIA has evaluated the climate change resilience in terms of how the Proposed Development may be vulnerable to a changing climate across the project design life (Climate Change Risk and Resilience), and how climate change interacts with the conclusions of environmental effects (In-Combination Climate Impact (ICCI) Assessment).

### VULNERABILITY OF THE PROPOSED DEVELOPMENT TO CLIMATE CHANGE

3.4.42. A Climate Risk and Resilience Report (CRRR) has been prepared and has been submitted with the planning application. The CRRR reports on the current and future baseline and summarises climate trends and hazards applicable to the Proposed Development. A CRRR is an impact risk assessment which assesses the likelihood and consequence of potential climate-related impacts which may affect the Project assets, taking into account the vulnerability of the assets identified at the Scoping Stage, and the effectiveness of the design and control measures. The CRRR has been developed with the design team and has been used to reduce climate risks to below a tolerable threshold.

### FUTURE CLIMATE AND THE OUTCOME OF THE EIA

3.4.43. Climate Change Resilience interfaces with all other topic chapters through the In-combination Climate Impacts (ICCI) assessment. The ICCI assessment has been undertaken by assessing how identified receptors in the surrounding environment are affected by future climate parameters, informed by the future climate baseline. The outcomes of the ICCI assessment have been captured within the relevant chapters as part of the assessments for their environmental topics. The ICCI assessment is a qualitative assessment and has identified if any reported effects will be exacerbated or ameliorated by the effects of climate change and identifies further mitigation where required. It will also assess whether the embedded measures will continue to be effective considering changes to climate.

## 3.5. CONSTRUCTION PROPOSALS

### PROGRAMME AND PHASING

3.5.1. It is currently anticipated that construction will start on the Site around 2027/2028, however, the construction programme is subject to the timescales for the publication of the Emerging Local Plan (the Regulation 19 plan).

- Construction of the Proposed Development is anticipated to take approximately 13 years and will be split into five indicative phases. The breakdown of the Proposed Development's indicative

phases is shown on the **Indicative Phasing Parameter Plan** with additional detail on each of the phases provided in the **Design and Access Statement.**

- The indicative phasing plan has been developed in line with the demand requirements generated by the Proposed Development. Each phase seeks to incorporate an element of placemaking so that the benefits of each phase are realised in full and new and existing residents feel established and safe in the places they live, whilst also benefiting from a sense of community.
- The plan also considers the site access strategy and how each phase can be delivered safely with minimum impact to new and existing residents. The walk and cycle connections from the north of the Site to the existing settlement of Southwater has been given consideration so that this can be delivered early on.
- Each phase seeks to deliver approximately 300-400 homes along with the other key uses of the Proposed Development such as the schools, community facilities and new sports facilities.
- Each phase proposes a mix of private and affordable homes to meet the needs of the District.

### PROPOSED KEY CONSTRUCTION ACTIVITIES

3.5.2. The key construction activities are likely to be divided into three broadly sequential phases:

- Site clearance and foundations;
- Building construction; and
- Landscaping and access roads.

### CONSTRUCTION WORKING HOURS

3.5.3. It is anticipated that the standard working hours will be 0800 hours to 1800 hours on weekdays, 0800 hours to 1300 hours on Saturdays and no working on Sundays or Bank Holidays. This will however be reviewed against relevant guidance and through discussions with WSCC / HDC. Any exceptions to standard working hours / practices would be agreed with WSCC / HDC in advance. The working hours will be secured via an appropriately worded condition.

### CONSTRUCTION ACCESS / HAULAGE ROUTES, TRAFFIC AND PARKING

3.5.4. It is anticipated that access to the Site for construction vehicles will be via different routes which are likely to include the A24. The construction access points will differ based on the respective phase of the Proposed Development. Construction material deliveries will predominantly arrive at the Site via the A24, liaison with WSCC / HDC and other relevant bodies will take place to ensure that deliveries of materials to the Site occur outside of highway peak hours, where practical. The exact access routes will be agreed with the Applicant / contractor and WSCC prior to commencement of construction work.

3.5.5. It is understood that the construction of the Proposed Development is likely to result in an average of 294 Light Goods Vehicles and 44 Heavy Goods Vehicles per day which will be distributed along different routes which are likely to include the A24, A264 and the A272.

3.5.6. All construction personnel will be advised not to park on-street in the vicinity of the Site and will be encouraged to use public transport, walk or cycle to work wherever possible. A particular focus will be made on car sharing, and car parking will be provided on Site. It is likely that temporary diversions to PRoWs will be required during construction, for which appropriate signage will be put in place.

3.5.7. Wheel washing facilities will be provided on-site to ensure that no deleterious material is transferred onto the highway network as far as is reasonably possible.

3.5.8. Further information is provided in the Transport Assessment and Travel Plan are provided as **Volume 2, Appendix 12.1 and 12.2** respectively.

### SAFETY, SECURITY AND FENCING

3.5.9. Site traffic will be kept separate from pedestrian and vehicular traffic during construction. Construction work areas will be fenced off from the general public.

3.5.10. Traffic barriers and suitable signage will be erected to alert pedestrians and vehicular traffic of the works and the temporary safety precautions that are in place. PRoWs will be managed to ensure that they can be safely accessed by the public at all times and that access to nearby properties is not obstructed. Routes will be clearly signed, well maintained and adequately illuminated.

### CONSTRUCTION COMPOUNDS

3.5.11. The location of the construction compounds are currently unknown; though are anticipated to be within the Site boundary, where this detail will be provided as part of subsequent reserved matters applications and secured through planning conditions as necessary.

### TEMPORARY DRAINAGE SOLUTION

3.5.12. A temporary drainage system will be put in place during the construction phase. Drainage mitigation measures will be and implemented during the construction phase, please refer to **Volume 1, Chapter 13: Water Resources, Flood Risk and Drainage** for further detail.

3.5.13. Clearance of the Site in preparation for the construction works will be undertaken using mechanical plant and craneage. Licensed waste carriers will deliver and collect waste skips.

### VEGETATION REMOVAL, WORKS AND RETENTION

3.5.14. An arboricultural survey has been undertaken for the Site which has informed the design of the Proposed Development, and trees and hedgerows have been retained wherever possible. An **Arboricultural Impact Assessment** has been prepared separately as part of the planning application which covers the potential arboricultural impacts and mitigation measures for the Proposed Development. In addition, an assessment of the potential impacts and mitigation requirements on hedgerows, Ancient Woodland and Ancient and Veteran trees is provided in **Volume 1, Chapter 8: Ecology** of the ES.

### CONSTRUCTION PLANT

3.5.15. The plant to be used during construction is yet to be confirmed, however is likely to include cranes, excavators / dumpers, piling machine, concrete lorries, tipper lorries and articulated lorries.

### CONSTRUCTION WASTE

3.5.16. The main contractor will be required to investigate opportunities to minimise waste arising at source and, where such waste generation is unavoidable, to maximise the recycling and reuse potential of construction materials.

## IMPLEMENTATION OF MITIGATION IDENTIFIED IN THE ES

3.5.17. It is anticipated that the mitigation measures identified in the ES will be implemented and secured through the reserved matters applications and secured through planning conditions as necessary.

## KEY CONSTRUCTION PRACTICES

3.5.18. The construction works will be undertaken in accordance with the UK's 'Considerate Constructors Scheme' to help ensure that contractors carry out their operations in a safe and considerate manner and actively minimise environmental risks.

3.5.19. In accordance with the Environment Agency's Pollution Prevention Guidance Notes, all construction works will be undertaken with suitable temporary drainage and pollution prevention measures in place. Further information on construction pollution mitigation measures is outlined in **Volume 1, Chapter 13: Water Resources, Flood Risk and Drainage** and **Volume 1, Chapter 14: Ground Conditions and Contamination**.

3.5.20. Further construction practices and mitigation measures are referred to in technical chapters 6 to 15.

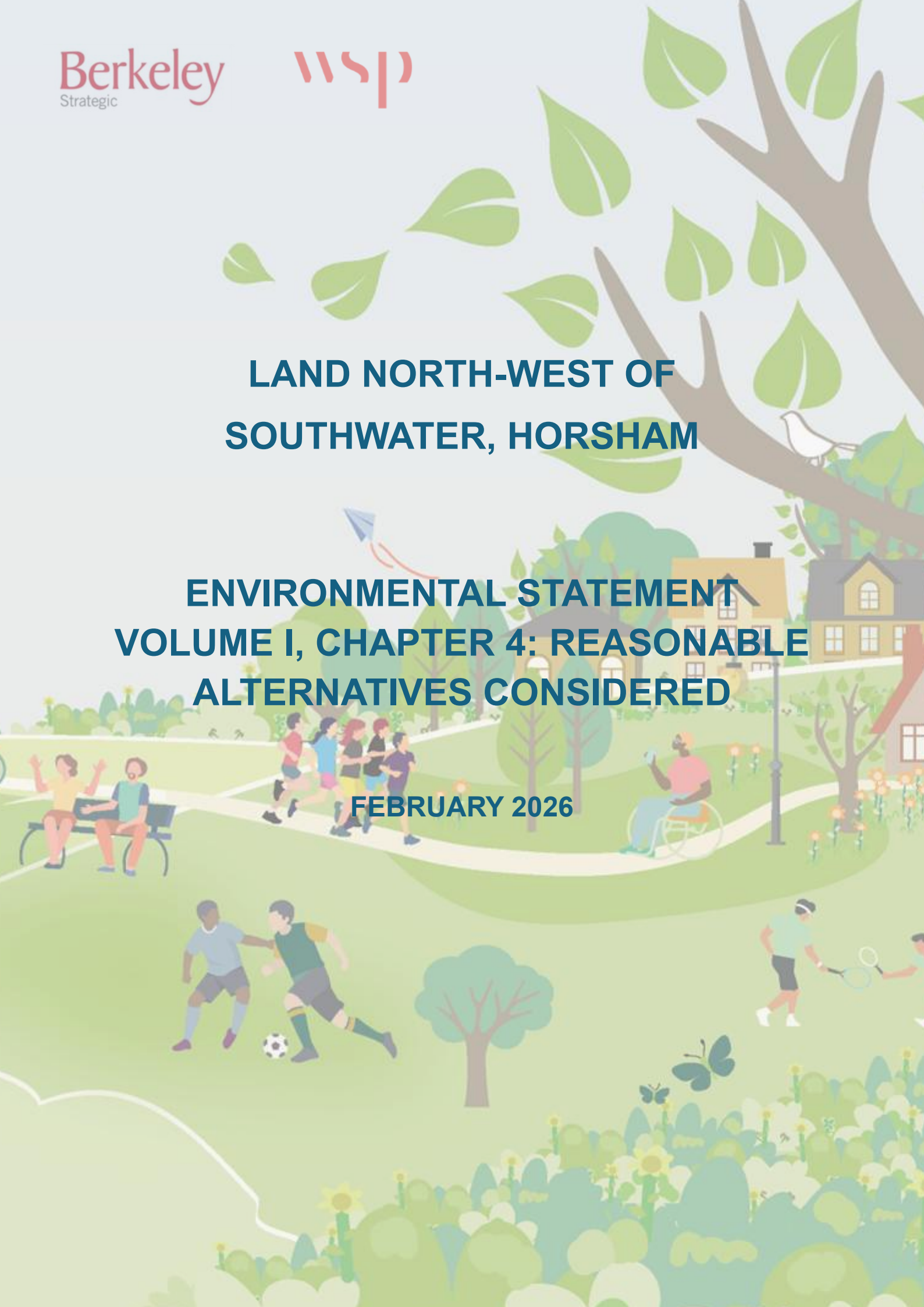
3.5.21. A CEMP will be prepared to avoid, minimise and mitigate likely environmental effects as a result of the Proposed Development during construction. The CEMP will be 'live' document and it is anticipated that the CEMP will be prepared and implemented through an appropriately worded planning condition.

## 3.6. REFERENCES


- **Reference 3.1**: Horsham District Council (2015). Horsham District Planning Framework (excluding South Downs National Park). Available online: https://www.horsham.gov.uk/__data/assets/pdf_file/0016/60190/Horsham-District-Planning-Framework-November-2015.pdf [Accessed September 2025].
- **Reference 3.2**: Horsham District Council (2021). Horsham Local Plan (Regulation 19 version)
- **Reference 3.3**: Southwater Parish Council (2020). Southwater Neighbourhood Development Plan 2019-2031. Available online: https://www.horsham.gov.uk/__data/assets/pdf_file/0007/108619/Southwater-Neighbourhood-Plan-Referendum-Version.pdf [Accessed September 2025].
- **Reference 3.4**: Town and Country Planning (Use Classes) (Amendment) (England) Regulations 2020 – Statutory Instrument 2020 No. 757
- **Reference 3.5**: Active Travel England – Natural Surveillance. Natural surveillance | Active Travel England [Accessed December 2025]
- **Ref 3.6** Horsham District Council (2024). Horsham District's Climate Action Strategy: Towards Net Zero and Climate Resilience**.** Available online: Horsham District's Climate Action Strategy [Accessed January 2026].
- **Ref 3.7** West Sussex County Council (2014). West Sussex Waste Local Plan. Available online: Waste Local Plan. [Accessed January 2026].
- **Ref 3.8** Kendon, M. et al. (2025). State of the UK Climate in 2024. International Journal of Climatology, 45(S1). doi:10.1002/joc.70010.]

WSP House
70 Chancery Lane
London
WC2A 1AF

**wsp.com**



# LAND NORTH-WEST OF SOUTHWATER, HORSHAM

# ENVIRONMENTAL STATEMENT VOLUME I, CHAPTER 4: REASONABLE ALTERNATIVES CONSIDERED

FEBRUARY 2026

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# 4. REASONABLE ALTERNATIVES CONSIDERED

## 4.1. INTRODUCTION

4.1.1. This chapter outlines the main alternatives and design iterations to the Proposed Development that have been considered by the Applicant, together with the principal reasons for proceeding with the Proposed Development.

## 4.2. REQUIREMENT FOR THE CONSIDERATION OF ALTERNATIVES

4.2.1. Schedule 4(2) of the EIA Regulations (**Ref. 4.1**) states that an ES should include;

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

4.2.2. To accord with Schedule 4(2) of the EIA Regulations, the following alternatives have been considered:

- Do-Nothing scenario;
- Alternative Sites; and
- Design Alternatives

## 4.3. DO-NOTHING SCENARIO

4.3.1. The 'Do-Nothing' Scenario is unlikely, given that the Site is identified as an emerging allocation for the development proposed under Strategic Policy HA3 (Land North West of Southwater) in the emerging Horsham District Local Plan 2023-2040. (**Ref 4.2**). The Proposed Development is being brought forward by the Applicant to provide a range of homes, including, but not limited to, family homes, affordable housing, specialist accommodation for the elderly, a new primary and secondary school, nursery, employment, and community facilities, public open space, sports pitches and associated infrastructure.

4.3.2. The Site also includes an area identified in the adopted Southwater Neighbourhood Development Plan (**Ref. 4.3**), under Policy SNP2, for the provision of 422 to 450 new homes and 8ha of public open space. Policy SNP3 of the Southwater Neighbourhood Development Plan (**Ref. 4.3**) has identified an area within the Site that is safeguarded land for a secondary school in order to meet the growing demand for school places within the local area. These further designations within local planning policy further demonstrates that the 'Do Nothing' scenario is unlikely.

4.3.3. Further information about the planning context of the Proposed Development is provided in **Volume 1, Chapter 3: Description of the Proposed Development** and the Planning Statement, of which the Affordable Housing Statement will comprise a sub-section. which has been prepared and submitted in support of this planning application that frames the Proposed Development in the context of planning policy and guidance at all levels and provides details on the planning history of the Site.

4.3.4. Should no development of the Site come forward, this would result in the Site continuing in its current form. A description of the existing baseline conditions and future baseline conditions are set out within technical **Volume 1, Chapters 6 to 15** of this ES.

## 4.4. ALTERNATIVE SITES

4.4.1. No reasonable alternative Sites have been considered by the Applicant, as the existing Site was identified for potential development within the Emerging Horsham District Local Plan (Regulation 19 version) (**Ref 4.2**). The emerging Local Plan will make provision for a significant number of homes and associated infrastructure within the period 2023 - 2040.

4.4.2. The Proposed Development will be an important development that will help Horsham District Council (HDC) to meet the strategic requirement for new homes, employment floorspace, and educational infrastructure. The selection of the site location for the Proposed Development was chosen due to the availability of the proposed land, its suitability for development and its proximity to the existing village of Southwater and to Horsham. The Site builds on the success of Berkeley's Broadacres development in Southwater and Highwood Village in Horsham.

## 4.5. DESIGN ALTERNATIVES

4.5.1. The design evolution of the Proposed Development is informed by the existing environmental features and opportunities within and surrounding the Site and adjoining areas, to inform the land uses, nature, scale, massing, the proposed location of the built form and the areas of open space.

4.5.2. The context of relevant national and local planning policies, best practice guidance and development standards, baseline studies, as well as feedback obtained from key stakeholders during consultations have been considered throughout design development.

### CONCEPT DESIGN EVOLUTION – INITIAL SITE OPPORTUNITIES

4.5.3. Initial concept designs were first assessed in 2022, which identified a variety of design opportunities including the following aspects for consideration:

- Location of the proposed spine roads;
- Pedestrian and cycling routes of the ProWs;
- Employment area, and location of a combined primary and secondary school, a neighbourhood centre in the heart of the Proposed Development, a connection between the parcels of ancient woodland, and the provision of sports facilities;
- Potential locations for travellers' pitches, informed by updates to heritage constraints regarding areas sensitive to development;
- Additional primary accesses; and
- Location of the neighbourhood centre.

4.5.4. For the 2026 planning application, further design workshops have been held to update the framework and illustrative masterplans, as well as through a public consultation event to collect feedback from residents and consultees. **Figure 4-1** shows a summary of the design changes between the 2022 and 2026 applications.

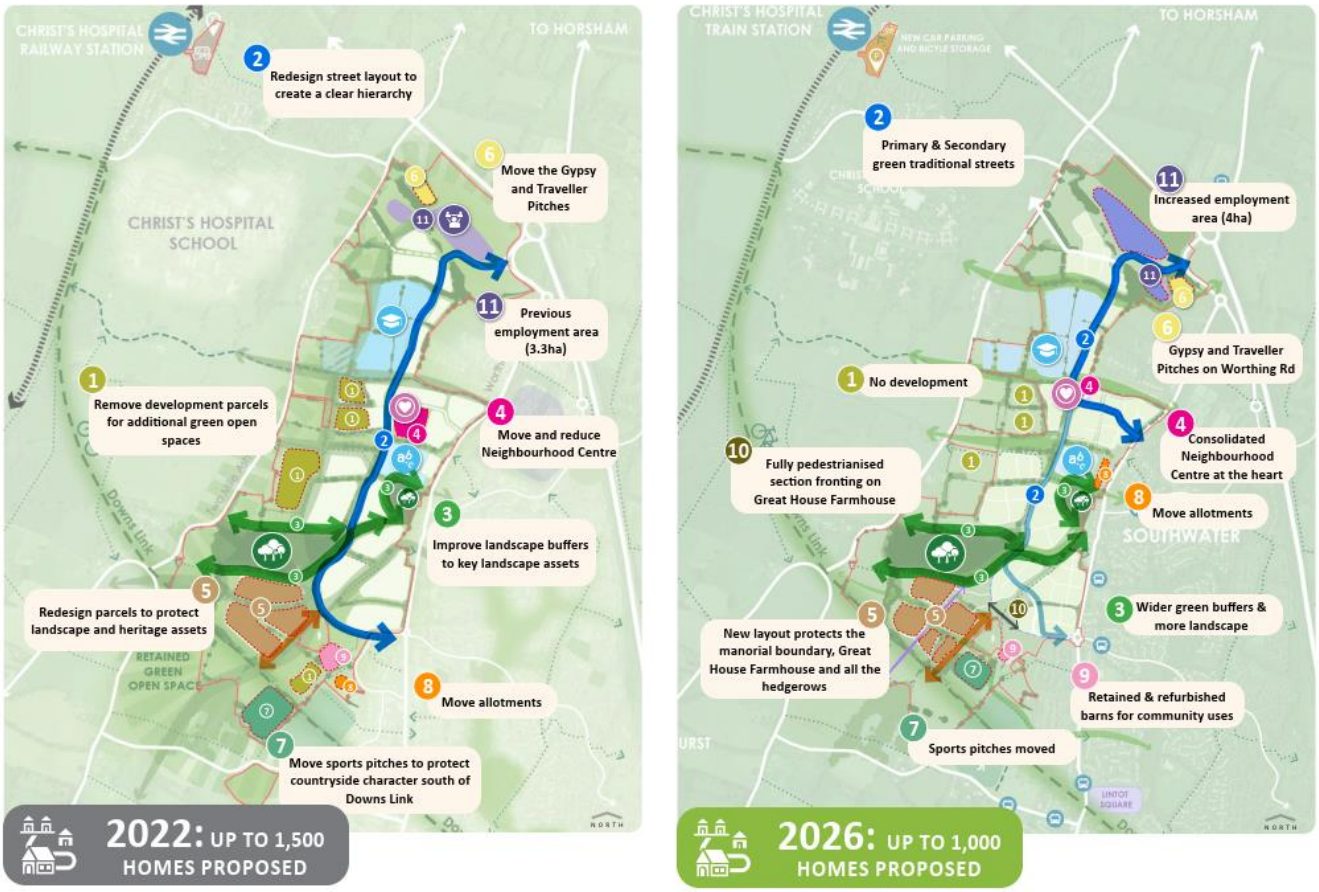



**Figure 4-1 - Comparison of Design Changes between 2022 and 2026 Applications**

## MASTERPLAN OPTION STUDY

4.5.5. Three master plan options were developed to ensure that all scenarios had been explored in relation to the potential location of uses across the Site. Each masterplan option has been carefully designed, testing the mix of uses in different locations within the masterplan. A detailed analysis was undertaken by the various technical and design disciplines within the project team (which included landscape, heritage, ecology, transport) to understand the advantages and disadvantages of each option, which is presented in the **Design and Access Statement**.

4.5.6. The designs considered for the 2026 application have incorporated a number of changes, of which are summarised below.

## OPTION 1 – 2025 FRAMEWORK 1

4.5.7. This option represents the first major evolution of the withdrawn 2022 scheme, reshaped in response to stakeholder engagement, technical work, and Local Authority feedback. The emphasis is a more landscape-led approach, with development pulled back from sensitive edges, stronger woodland and green buffers, and a more appropriate built form character.

**Figure 4-2 - Option 1 - 2025 Framework 1**

## OPTION 2 – 2025 FRAMEWORK 2

4.5.8. This iteration refines the masterplan's movement hierarchy and street character to create a more legible, people-focused place. The primary route is simplified and strengthened to support access and wayfinding, while the internal network is designed to feel greener and less engineered.

4.5.9. A key change is the introduction of a pedestrian and cycle-only route north of Great House Farmhouse, reducing vehicle movement close to the listed building and enabling a more continuous green setting that protects and enhances its setting. The option also increases community value through the redevelopment of the existing historic barns and the delivery of an additional new barn, providing flexible community space, alongside expanded allotment provision.

**Figure 4-3 - Option 2 - 2025 Framework 2**

## OPTION 3 - FINAL FRAMEWORK MASTERPLAN 2026

4.5.10. This final concept framework brings the masterplan together into a clearer, more coherent and place-led arrangement. It refines the movement hierarchy to feel more natural through the neighbourhood centre, strengthens the role and quality of the centre as a genuine heart, and delivers a more generous and sensitive setting to Great House Farmhouse. Alongside this, the option improves connectivity for walking and cycling, reinforces landscape structure and retention, and introduces a small additional employment opportunity to support a balanced community.

**Figure 4-4 - Option 3 - Final Framework Masterplan 2026**

4.5.11. As demonstrated in Figure 4-4, Option 3 encompassed all of the amendments and improvements agreed upon throughout consultation and feedback. A summary of the benefits of this option is provided below:

- Retainment of approximately 90% of hedgerows and trees across the site, creating a core, landscaped focus on the Site;
- Gentler connections through the neighbourhood centre through the realignment of the primary roads, dispersing traffic and reducing traffic 'hot spots';
- Introduction of additional employment land, with independent access from the north;
- Redesign of the neighbourhood centre providing a new public square, mixed-use blocks, and creating a stronger community feel of the Site;
- Introduction of a new 20m wide 'village-green' corridor to provide a softer rural edge between amenities;
- Walking and cycling connections improved with safer, more continuous routes; and

- Setting surrounding Great House Farmhouse strengthened, with open space in front of the farmhouse enlarged, and residential parcels to the north of the farmhouse refined to allow for wider separation and improving the relationship with the heritage asset and local amenities.

## PRIOR ENGAGEMENT

4.5.12. A number of pre-application meetings were held throughout 2022 with HDC and WSCC (Education), which also included site visits and workshops.

4.5.13. The 2026 application has since focused on and responded to feedback following the 2022 application, which has included further pre-application meetings, public consultation events and drop-in sessions, a dedicated website and stakeholder engagement. These engagements have enabled both local residents and stakeholders to share their views, with encouraging feedback on the provision of new open green and community spaces, a new secondary school, and sustainable travel routes. . A summary of all of the pre-application meetings held for the 2026 application is provided below, with further detail on consultation feedback provided in the **Statement of Community Involvement** included as part of this application.

## PRE-APPLICATION MEETINGS

4.5.14. Several pre-application meetings have since been held with HDC and WSCC (education, highways, and drainage) regarding the latest design and proposals of the Proposed Development. Summaries of these meetings are outlined within this section. Pre-application engagement has also been held with Historic England. The Proposed Development has been reviewed and refined in response to advice and comments.

4.5.15. Schedule 4, Paragraph 2 of the EIA Regulations (**Ref 4.1**) requires that an ES provides an indication of the main reasons for selecting the chosen design for the Proposed Development including a comparison of the environmental effects. The paragraphs below provide a summary of the reasonable alternatives considered and a high-level comparison of the associated environmental effects of each.

4.5.16. The sequence of the design evolution for the Proposed Development through the Pre-Application Meetings set out in the paragraphs below is detailed within the Design and Access Statement, which accompanies the planning application.

### Pre-application Meeting – 10th July 2025

4.5.17. The first pre-application meeting between Horsham District Council, Nexus Planning, and Berkeley to discuss Berkeley's intention to submit a revised planning application for the Land West of Southwater, with a focus on aligning the proposal with draft policy HA3 and the Local Plan's draft allocation.

4.5.18. The urgent need for early delivery of a secondary school was discussed, alongside its location, while the district-wide shortage of playing pitches was also highlighted.

4.5.19. An agreement was made to proceed with pre-application and Planning Performance Agreement (PPA) steps.

**Pre-Application Meeting – 23rd July 2025**

4.5.20. Berkeley and Nexus provided progress reports and outlined how previous feedback from Horsham District Council in respect of the subsequently withdrawn 2022 application was being addressed via new design options.

4.5.21. A significant portion of the agenda focussed on technical discussions, particularly heritage considerations, a comprehensive review of the landscape strategy, the methodology for the Landscape and Visual Impact Assessment (LVIA), and the identification of key viewpoints. The council also provided an update on water neutrality requirements.

**PPA Inception Meeting – 21st August 2025**

4.5.22. The location of the secondary school remained under discussion. Landscape and open space provision were reviewed, with positive feedback on inclusive design and addressing local deficits e.g. lack of football pitches. The need for a draft EIA Scoping Report, robust stakeholder and community consultation, and adherence to accessible housing standards was agreed.

4.5.23. Heritage was also a main topic of discussion centred around the setting of Great House Farmhouse. Recommendations were made to avoid over-engineered roads and formal sports facilities near Great House Farmhouse and to engage with Historic England.

4.5.24. Water neutrality was discussed and it was confirmed that this was achievable through SNWCS credits.

4.5.25. Access and Transport discussion focused on leveraging improvements from the Horsham Golf Club appeal, strengthening sustainable travel links, and exploring next connections to relieve local traffic and support active travel.

**PPA Meeting – 22nd September 2025**

4.5.26. Berkeley confirmed the project was progressing towards submissions early 2026 and the design team presented the emerging masterplan, highlighting feedback from a previous withdrawn application. Horsham District Council provided initial feedback on planning policy, landscape, and transport.

4.5.27. There were discussions about the location of the Gypsy and Traveller site, reuse of barns for heritage and sports provision, and the urgent need for sports pitches in Southwater was reiterated.

**PPA Meeting – 24th October 2025**

4.5.28. The meeting focused on environmental health strategy including the northern business park, noise and lighting impacts from sports pitches and industrial uses, with mitigation measures to be considered in the masterplan and EIA. Amendments to the neighbourhood centre, green spaces, and access arrangements were shared. Updates were provided on the project plan, ecology surveys, energy and sustainability principles, and water neutrality.

4.5.29. The timing and delivery of the spine road were highlighted as key issues.

**Other Technical Matters Meeting - 24th November 2025**

**Transport and Access Strategy Meeting – 10th December 2025**

4.5.30. The meeting focused on updates to junction arrangements, including the Gypsy and Traveller Site access, with WSP presenting refined concepts for traffic calming at the Two Mile Ash Road / Christ's Hospital Road junction alongside other measures. The alignment of Two Mile Ash Road was also discussed alongside strategic improvements for walking and cycling across the Site.

4.5.31. A revised internal arrangement was presented in respect of the 'Spine Road', moving toward a more defined 'Primary' and 'Secondary' road hierarchy, as now reflected in the Proposed Development.

4.5.32. The meeting concluded with confirmation of the intention to submit the planning application by the end of February 2026 and an agreement to progress the Road Safety Audit.

**WSCC Education Meeting – 18th December 2025**

4.5.33. Discussions focussed on the delivery of the secondary school and ensuring it can be delivered early in the programme. WSCC continued to seek the land for the primary school which they are confident is required when looking at long-term data.

**12th January 2026**

4.5.34. Discussions regarding the s106 Heads of Terms for the planning application.

## 4.6. CONSULTATION AND ENGAGEMENT

4.6.1. A range of engagement methods have been used to maximise accessibility and participation, including in-person consultation events, online materials, direct stakeholder meetings and dedicated contact channels.

4.6.2. Further engagement has been undertaken with the Council and other statutory stakeholders, which is detailed in the Planning Statement and associated technical reports as part of the ES.

## 4.7. SUMMARY OF ENVIRONMENTAL CONSIDERATIONS WITHIN THE DESIGN

4.7.1. A number of environmental factors have influenced the design of the Proposed Development during the identification of constraints and opportunities. The key design reiterations that have been considered are described in **Table 4-1** below.

**Table 4-1 - Environmental Considerations of the Proposed Design**

| Factor | Considerations within the Proposed Development |
|---|---|
| Biodiversity and Landscape | ▪ A buffer zone using planting comprising of native trees, scrub and meadow grassland has been created around the ancient woodland of Courtland Wood and Smith's Copse which are within the Main Site, enabling wildlife movement and strengthening ecological resilience across the Site.<br>▪ A green buffer has been created on the western edge of the Main Site along Two Mile Ash Road to soften and integrate the Proposed Development into the surrounding areas and create new opportunities for wildlife.<br>▪ The design of the Proposed Development will enhance green corridors to allow wildlife to travel more freely within and around the site. |

| Factor | Considerations within the Proposed Development |
|---|---|
| | ▪ Existing hedgerows within the Site will be protected and enhanced throughout the Proposed Development.<br>▪ The public open space has been designed to integrate and protect Courtland Wood and Smith's Copse.<br>▪ The design of the residential parcels within the Proposed Development were adapted to integrate and reduce impacts to the existing hedgerows.<br>▪ Natural screening is included in the design of the Proposed Development around the parcels surrounding Great House Farm to minimise the effect on the setting of and visual corridors to Great House Farm.<br>▪ The Western Edge Study considered measures that will help to reduce impacts on species and habitats.<br>▪ Characterful housing that suits the location and context of the surrounding area has been included in the design of the Proposed Development help to integrate the residential parcels into the surrounding landscape. Whilst different characters will emerge across different areas of the development, the widespread principle is its cohesiveness with nature. Natural, robust and vernacular materials and forms will be considered depending on their location of the Proposed Development. Form and function of the new Proposed Development will also be addressed carefully, using elements, proportions and natural buffers, so they merge comfortably with their natural and built surroundings. As a result, the design of this Proposed Development key aim is to integrate it naturally with its surroundings and its biodiversity by using its background as a canvas.<br>▪ Bird and bat boxes will be provided within the woodland edge and other retained trees across the Site.<br>▪ Grassland habitat is to be enhanced with wildflower species for pollinators. |
| Cultural Heritage | ▪ A lower density of development and appropriate storey heights have been incorporated into the design of the Proposed Development in areas of heritage sensitivity for example the vicinity of Great House Farm and the western edge of the Main Site.<br>▪ The architecture of the residential parcels close to Great House Farm will be carefully considered and tailored to the sensitivity of the Grade II* Listed Building.<br>▪ Good connections to Great House Farm will be included in the design of the Proposed Development via pedestrian and cycle routes, allowing new opportunities for users of those routes to experience and appreciate its architectural and historic interest.<br>▪ Green buffers will be provided for residential parcel south of Great House Farm. Key views will be preserved in this area, allowing an appreciation of the historic building across an area of green open space, framed by existing hedgerows and proposed landscaping.<br>▪ The additional buildings as part of the Orchard Barns element of the Proposed Development will take architectural inspiration from existing barns in to minimise impact on the setting of Great House Farm.<br>▪ A series of measures have been included in the design to reflect the medieval landscape associated with Great House Farm, minimising breakthroughs for historic hedgerows as far as possible and including structured landscapes such as planting in square frame, ponds, manicured lawn and orchards. |

| Factor | Considerations within the Proposed Development |
|---|---|
| Traffic and Transport | ▪ The considerations for the location of the school included measures that will help to alleviate traffic congestion.<br>▪ The design of the primary road, including the positioning of the proposed northern site access (close to the A24 Hop Oast roundabout) and additional accesses further south will assist in diverting traffic away from Worthing Road.<br>▪ The entrance and exit in the north of the Main Site close to the A24 will help to alleviate traffic away from Worthing Road.<br>▪ Improvements to the Downs Link and other Public Rights of Way (PRoWs) within the Site are included in the design of the Proposed Development.<br>▪ The layout of the primary road would be suitable to accommodate buses, including existing bus service 98, which could be rerouted through the Site as part of the Proposed Development subject to further discussion and agreement with Metrobus. The design team have also considered the potential for a dedicated shuttle bus Metrobus to provide a direct service between the Proposed Development and Christ's Hospital Station. Whilst enhancements to the existing 98 services are considered the optimum solution for maximising bus connectivity for the Site, the indicative layout of the potential car park area at Christ's Hospital Station is such that is could allow for small buses to run, thereby futureproofing the ability for a smaller shuttle service to be implemented in future were this to come forward and be viable.<br>▪ It is envisaged that neighbourhood streets, lanes and other secondary roads within the Proposed Development will have the capacity to accept shared surface areas to balance and support pedestrian and cyclists.<br>▪ The Proposed Development will be designed to incorporate a number of additional, new traffic-free walking and cycle routes, connecting residents across the Site to key services and to the off-site walking and cycling infrastructure. In particular, a trim trail of approximately 5km across the Site will be provided as part of the movement strategy, linking the key elements of the Proposed Development for pedestrians and cyclists.<br>▪ The trim trail and improved PRoW within the Site will encourage active travel and exercise with accessible footpaths and themed trails.<br>▪ The primary road will incorporate comprehensive, high-quality walking and cycling infrastructure to LTN 1 / 20 standards and would connect to adjoining walking and cycling routes within the Site and to off-site areas.<br>▪ A number of key off-site walking and cycling routes to destinations such as Horsham and Christ's Hospital will be enhanced by way of Infrastructure Improvements that will be delivered as part of the Proposed Development, or by the way of a contribution to WSCC towards the delivery of these schemes.<br>▪ The mixed-use nature of Proposed Development inherently enhances the accessibility credentials of the Site by non-care modes, enabling future (and existing) residents of the area to access key day-to-day amenities. Notwithstanding this, these on-site facilities would not detract from the existing facilities within Southwater (including those at Lintot Square). |
| Ground Conditions and contamination | ▪ The Proposed Development seeks to achieve an overall earthworks balance on the Site, reducing the need for importing of material.<br>▪ Based on the Phase 1 Desk Study, a preliminary limited ground investigation was undertaken that focussed on potential site-wide contamination, together with a limited number of positions where contamination hotspots could be present. The results indicated that contamination was not present at the investigation points and furthermore it could be inferred that there is no widespread contamination within the Site. Detailed investigation is recommended to supported detailed planning, design and construction. |

| Factor | Considerations within the Proposed Development |
|---|---|
| Noise and Vibration | ▪ The location of the least sensitive land-use type (employment) was placed adjacent to the A24 to avoid impacts from traffic noise. Sensitive land-use types (for example residential) therefore benefit from the increased distance from the A24 and screening afforded by the employment land buildings. |
| Water Resources, Flood Risk and Drainage | ▪ The Surface Water Drainage Strategy for the Proposed Development demonstrates that the Site's drainage system will be designed to manage surface water runoff for all events up to and including the 1-in-100-year return period, with an additional 45% allowance for climate change.<br>▪ Surface Water Drainage for the Proposed Development will include attenuation storage basins, some of which will be permanently wet to enhance biodiversity. |
| Greenhouse Gases | ▪ Whole life embodied carbon reduction measures including optimising material usage and use of low carbon materials, reducing construction waste, and embedding end-of-life measures into the design<br>▪ Energy efficient design principles, installation of efficient build form including air tightness, air source heat pumps, 'fabric first' approach |

## 4.8. SUMMARY AND CONCLUSION

4.8.1. This chapter has set out a review of the reasonable alternatives considered throughout the iterative design process, set out as follows:

- The Do-Nothing Scenario;
- Alternative Sites; and
- Design Alternatives.

4.8.2. The aforementioned measures and considerations have shaped the existing design of the Proposed Development, which is presented in **Volume 1, Chapter 3: Description of the Proposed Development**.

4.8.3. The environmental benefits of each design iteration have been considered as part of the iterative design process. The final design was selected as this will perform better in terms of views of the Proposed Development and setting within the local Horsham District environment, the integration of green corridors and connecting existing green corridors and maximising areas of open space for the community.

4.8.4. All other beneficial effects associated with the Proposed Development are set out within technical **Volume 1, Chapters 6 to 15.**

## 4.9. REFERENCES


- **Reference 4.1**: Town and Country Planning (Environmental Impact Assessment) Regulations 2017. Statutory Instrument 2017 No. 571.
- **Reference 4.2**: Horsham District Council (2024). Emerging Horsham Local Plan 2023-2040 (Regulation 19 version) Available online: Horsham District Local Plan 2023 - 2040 (Regulation 19) - Horsham Planning Policy Consultations.
- **Reference 4.3**: Southwater Parish Council (August 2020). Southwater Neighbourhood Development Plan 2019-2031. Available online: https://www.horsham.gov.uk/__data/assets/pdf_file/0007/108619/Southwater-Neighbourhood-Plan-Referendum-Version.pdf.

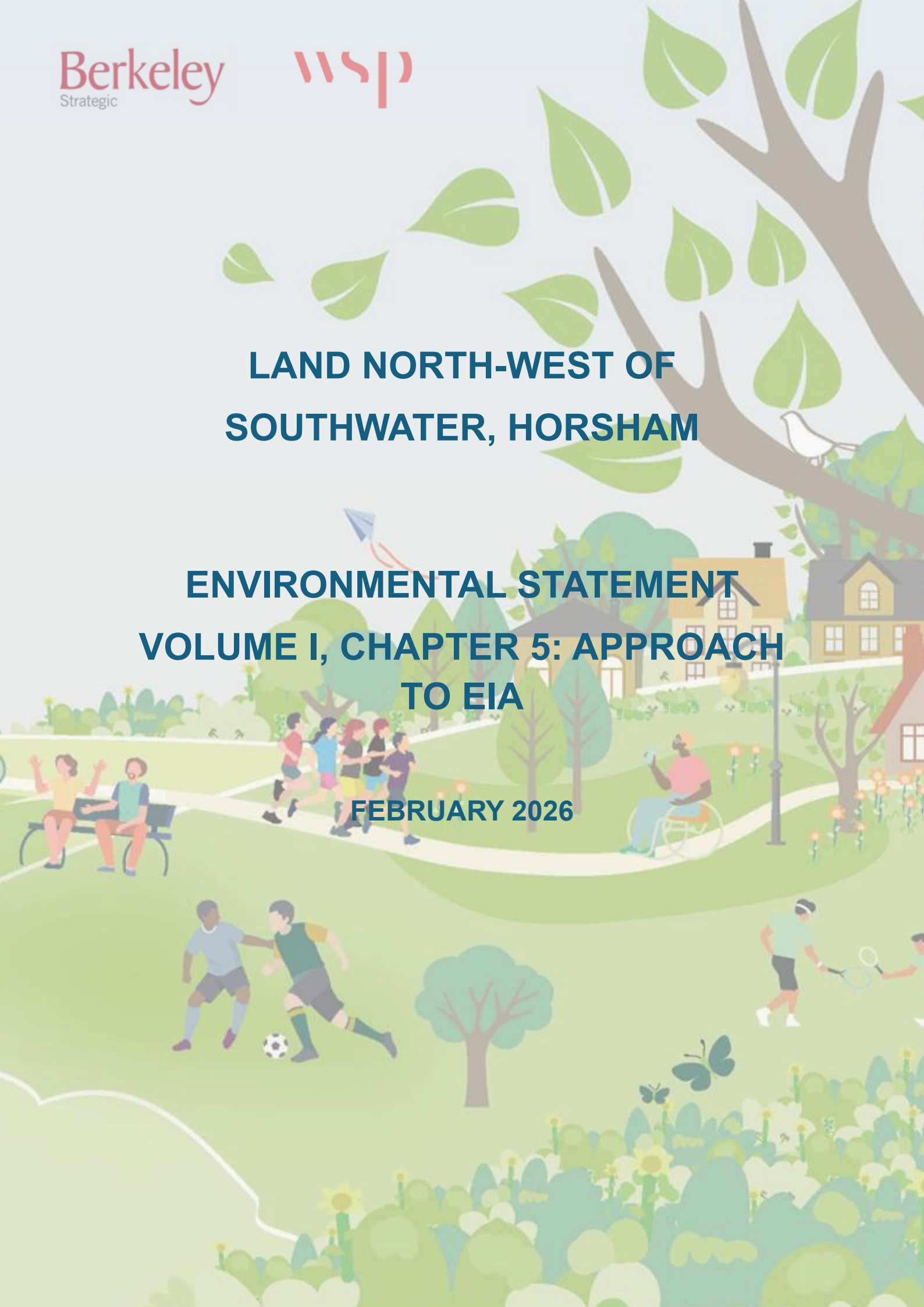
WSP House
70 Chancery Lane
London
WC2A 1AF

**wsp.com**

# LAND NORTH-WEST OF SOUTHWATER, HORSHAM

# ENVIRONMENTAL STATEMENT VOLUME I, CHAPTER 5: APPROACH TO EIA

FEBRUARY 2026



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# 5. APPROACH TO EIA

## 5.1. INTRODUCTION

5.1.1. This chapter outlines the approach to the Environmental Impact Assessment (EIA), in particular the objectives and overall strategy for the EIA developed by WSP and the wider Project Team. Scoping has been an ongoing process, which is documented within this chapter alongside the evidence base associated with those technical disciplines and elements scoped out of the assessment.

5.1.2. The approach to consultation is also outlined in this chapter, together with the approach to proportionate assessment including the assessment criteria and the methodology for assessing cumulative effects.

5.1.3. The EIA has been undertaken in accordance with the EIA Regulations (**Ref. 5.1**), National Planning Practice Guidance (**Ref. 5.2**), and guidance specific to the technical disciplines assessed (as listed in **Volume 1, Chapters 6 to 15**).

5.1.4. A detailed overview of the Site's status in relation to relevant planning policy is discussed within the Planning Statement, which has been submitted within the planning application alongside this ES.

5.1.5. This guidance provides a common governing framework and methodology for the entire environmental assessment as reported in this ES. Where exceptions have been made to the adoption of the approach in a particular discipline, it is described and explained in the relevant Chapter, as is any occasion where guidance specific to a particular technical discipline has been applied, including assumptions and / or limitations which are particular to a single assessment.

## 5.2. OBJECTIVES OF THE EIA

5.2.1. The key objectives of the EIA are as follows:

- Set the legal framework;
- Document the consultation process;
- Consider the alternatives to the Proposed Development;
- Establish baseline environmental conditions at the Site and within the surrounding area;
- Identify likely significant environmental effects during the design process so that some effects can be avoided, prevented, reduced or, if possible, offset prior to the assessments within the Environmental Statement (ES) (i.e. demonstrating an iterative approach to EIA);
- Identify, predict and assess the environmental effects associated with the Proposed Development: beneficial and adverse; permanent and temporary; direct and indirect and short / medium / long term; significant or not significant;
- Identify, predict and qualitatively assess the cumulative effects of the Proposed Development including those associated with the other developments;
- Identify suitable mitigation measures to avoid, prevent, reduce or, if possible, offset likely significant adverse effects on the environment and identify the likely significant residual effects following the implementation of these measures; and
- Identify monitoring measures where likely significant residual adverse effects are identified.

## 5.3. SCREENING (REGULATIONS 5, 6, AND 7) AND SCOPING (REGULATION 15)

### SCREENING

5.3.1. As set out in **Volume 1, Chapter 1: Introduction,** screening has not been undertaken for the Proposed Development. Through consultation with HDC, it was agreed that the Proposed Development would require EIA and therefore screening was not required. Scoping was subsequently undertaken.

### SCOPING REPORT

5.3.2. As set out in **Volume 1, Chapter 1: Introduction**, an EIA Scoping Report was submitted to HDC on 10th November 2025 alongside a request for a formal Scoping Opinion in accordance with Regulation 15(1) of the EIA Regulations. As part of HDC's responsibility under Regulation 15(4) of the EIA Regulations, consultation was undertaken with the following consultees:

- Horsham District Council:
  - Landscape Officer;
  - Conservation and Archaeology Officer;
  - Biodiversity & BNG Officer;
  - Environmental Protection (noise, air quality and land contamination);
  - Agriculture;
  - Planning Policy;
  - Transport Planning; and
  - Waste Management.
- West Sussex County Council:
  - Local Lead Flood Authority;
  - Highways Authority;
  - Planning Minerals and Waste;
  - Education; and
  - Public Rights of Way.
- Southwater Parish Council;
- Natural England;
- The Environment Agency;
- Historic England;
- Southern Water;
- Sussex Police;
- Active Travel England;
- Sport England
- Southwater Royals FC;
- Southwater Sports Club; and
- Horsham District Scouts.

5.3.3. Nearby residents were also able to comment on the EIA Scoping Report.

## SCOPING OPINION

5.3.4. The EIA Scoping Opinion **Volume 2, Appendix 1.2** which included comments from statutory consultees and nearby residents, was received from HDC on 15th November 2025. The scoping responses are presented in **Volume 2, Appendix 5.1**, with an indication of how they have been taken into account during the preparation of the ES and / or accompanying planning application documentation.

5.3.5. Following the EIA Scoping exercise and further consultation, the following technical disciplines were scoped into the EIA and assessed within this ES:

- Air Quality (**Chapter 6**);
- Cultural Heritage & Archaeology (**Chapter 7**);
- Ecology (**Chapter 8**);
- Landscape and Visual (**Chapter 9**);
- Noise and Vibration (**Chapter 10**);
- Socio-economics (**Chapter 11**);
- Traffic and Transport (**Chapter 12**);
- Water Resources, Flood Risk and Drainage (**Chapter 13**);
- Ground Conditions and Contamination (**Chapter 14**); and
- Greenhouse Gases (**Chapter 15**)

5.3.6. These technical disciplines and their associated likely significant environmental effects have been taken forward and assessed within this ES.

## TECHNICAL DISCIPLINES SCOPED OUT OF THE ASSESSMENT

5.3.7. As part of the EIA scoping process, a number of technical disciplines have been scoped out of the EIA and are therefore not reported in this ES. The following table summarises this aspect of the process and the justification for scoping out these technical disciplines and elements.

**Table 5-1 – Technical disciplines and elements scoped out of the assessment**

| Factor / element scoped out | Justification |
|---|---|
| Daylight, Sunlight and Overshadowing | The Proposed Development will mainly comprise two to two and a half -storey houses which will result in a building massing that is equivalent to the existing nearby properties in Southwater. There will be some buildings which are up to three-storeys in height associated with the schools, community hub, employment and residential land uses, However, the most sensitive receptors to daylight and sunlight impacts i.e. the existing properties adjacent to the Site, are located at a distance from the Proposed Development such that it is unlikely that this would represent a significant impact on the daylight and sunlight to surrounding windows, rooms and outdoor amenity areas. Therefore, it is considered that no further assessment of daylight, sunlight and overshadowing is required in the EIA. |

| Factor / element scoped out | Justification |
|---|---|
| Human Health | Due to the nature of the Proposed Development, it is anticipated that the Proposed Development is unlikely to have any significant effects on the health of existing and future residents or workers. Temporary emissions from the construction of the Proposed Development will be managed through implementation of a Construction Environmental Management Plan (CEMP) and identified mitigation measures throughout the technical disciplines of the ES, so as to avoid adverse health impacts. Through the provision of new homes, extra care / assisted living and affordable homes, as well as leisure facilities and schools, there is potential for beneficial effects to human health. Any potential impacts and benefits have been summarised and assessed in **Volume 1, Chapter 11: Socio-economics**, taking account of the assessments within **Volume 1, Chapter 6: Air Quality** and **Volume 1, Chapter 12**: **Traffic and Transport** of this ES, and submitted as part of the Planning Application.<br><br>It is therefore considered that no further assessment is required in the EIA. |
| Arboriculture | An arboricultural survey has been undertaken in accordance with BS5837 and a separate Tree Survey Report and Arboricultural Impact Assessment has been prepared as part of the planning application, reporting arboricultural impacts and mitigation. **Volume 1, Chapter 8: Ecology** and **Volume 1, Chapter 9: Landscape and Visual** of this ES include a summary of the arboricultural impacts. It is therefore considered that no further assessment is required in the EIA. |
| Waste | Waste generated during the construction and operation of the Proposed Development will be managed in accordance with legal requirements and is not anticipated to result in any likely significant environmental effects since the waste is expected to be typical of that associated with residential-led developments.<br><br>In addition, during the construction phase the preference will be to re-use material on Site, where possible, so that no significant volumes of excavated material need to be removed from the Site for off-Site disposal.<br><br>Waste issues, where applicable, will be outlined within the ES chapters.<br><br>It is therefore considered that no further assessment is required in the EIA. |

| Factor / element scoped out | Justification |
|---|---|
| Risk of Major Accidents and / or Disasters | Due to the nature of the Proposed Development, it is unlikely that major accidents and / or disasters could occur. Measures will be included in the Construction Environmental Management Plan (CEMP) to limit the risk of major accidents and / or disasters during construction.<br>All electrical installations will meet the required specifications and buildings will be designed to the required wind loading / severe weather protection and fire safety standards.<br>The Flood Risk Assessment considers 100-year flooding events and considers sensitivities for changes in rainfall due to climate change. The outcomes of that would dictate if design changes were necessary such as additional drainage measures.<br>All required processes will be followed in relation to the design and construction of the Proposed Development, as such, it is considered that no further assessment is required in the EIA. |
| Artificial Lighting | Lighting is being considered as an integral part of the design. The lighting design will be developed in accordance with current best practice guidance, taking into account the surrounding sensitivities, including existing neighbouring residential properties and ecological receptors, and will be based on the use of low light pollution installations. A Lighting Strategy has been prepared and submitted in support of the planning application. As such, it is considered that no further assessment is required in the EIA. |
| Heat and Radiation | Given the nature of the Proposed Development, an assessment of heat and radiation is not deemed to be relevant to the scope of the EIA. |

## ASSESSMENT OF MAJOR ACCIDENTS AND DISASTERS

5.3.8. Schedule 4(8) of the EIA Regulations states that the ES must include the following:

*"A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and / or disasters which are relevant to the project concerned…. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies".*

5.3.9. As stated in **Table 5-1**, due to the nature of the Proposed Development, it is unlikely that major accidents and / or disasters could occur. Measures are included in the CEMP to limit the risk of major accidents and / or disasters during construction and all required processes will be followed in relation to the design and maintenance of the Proposed Development, such as:

- **Flooding**: The Site is located within a Flood Zone 1 (i.e. it has a low probability of flooding from rivers or the sea). As discussed in **Volume 1, Chapter 13: Water Resources, Flood Risk and Drainage**, the existing sources of flood risk which could in theory present a risk to the Site are from surface water flooding associated with the land drains and watercourses across the Site. Following the implementation of mitigation measures as set out in the Flood Risk Assessment and Surface Water Drainage Strategy (**Volume 2, Appendix 13.1**), the effect of changes to the risk of flooding during the construction and operational stages are not anticipated to be significant. Therefore, the risk of a major accident or disaster associated with flooding is considered to be as low as reasonably practicable;
- **Security**: Major accidents or disasters relating to security could occur, for example, due to vandalism, arson or terrorist events. The Proposed Development will incorporate security measures which will reduce the risk of a major accident or disaster related to security to as low as reasonably practicable, for example, the erection of security hoarding during the construction stage and security measures, such as the work areas being fenced off from the general public, will be implemented on Site during operation;
- **Severe Weather**: Severe weather includes storms and gales, lightning, sub-zero temperatures and heavy snow and heatwaves. The Proposed Development will be designed in accordance with the applicable safety standards to withstand such severe weather events. Therefore, the risk of a major accident or disaster associated with severe weather is considered to be as low as reasonably practicable;
- **Construction**: Major accidents and disasters associated with the construction of the Proposed Development are considered to be as low as reasonably practicable. The construction of the Proposed Development will be managed and undertaken by competent contractors and will be subject to suitable method statements for all activities;
- **Fire**: The design of the Proposed Development will follow good practice guidance to reduce the risk of a major accident or disaster associated with fire during the operational stage of the Proposed Development to as low as reasonably practicable. In addition, fire suppression systems would be included in the detailed design where required; and
- **Unexploded Ordnance (UXO)**: The Site is located within an area described as at low risk of UXO (**Ref. 5.3.**), therefore the risk of a major accident or disaster associated with UXO is considered to be as low as reasonably practicable.

5.3.10. This review did not identify any likely significant effects from major accidents or disasters that would require assessment under the EIA Regulations and therefore major accidents and disasters are not considered further in this ES.

## 5.4. CONSULTATION

5.4.1. In addition to the formal consultation undertaken in conjunction with the scoping process, ongoing technical consultation and public consultation has been undertaken.

### ONGOING TECHNICAL CONSULTATION

5.4.2. As part of the EIA process, technical consultation with a range of statutory and non-statutory consultees has been ongoing e.g. West Sussex County Council (WSCC), Horsham District Council (HDC), Natural England, Southern Water .

5.4.3. A number of Pre-Planning Application (PPA) meetings have been held with WSCC and HDC to discuss the updated application, covering areas such as Landscape and Heritage, Highways,

Education, Master planning, and Other Matters. A summary of these meetings can be found in **Volume 1, Chapter 4: Reasonable Alternatives Considered** of this ES.

5.4.4. Details of the technical consultation undertaken for each assessment is provided in the respective technical chapters.

### PUBLIC CONSULTATION

5.4.5. A public consultation event was held on Thursday 13 November 2025. The Project website was populated with information boards and was opened for feedback on 3rd November. The consultation opened on 22nd October 2025 and remains open at the time of submission of this application. The full details and outcomes of the public consultation event is described within the **Statement of Community Involvement** which has been prepared and submitted as part of the planning application.

5.4.6. A reasonably equal age demographic ranging from 18-70+ provided feedback on the Proposed Development, either online or through physical feedback forms, with just over half of respondents having engaged previously for the 2022 (withdrawn) planning application for the Proposed Development.

5.4.7. Responses received were positive towards the provision of green spaces and protection of woodlands and biodiversity, new schools, community facilities and sustainable active travel routes. Areas for improvement or areas of concern toward the Proposed Development included traffic congestion, loss of green fields and biodiversity corridors, inadequate provision of community infrastructure, and the inclusion of the gypsy and traveller Site.

## 5.5. APPROACH TO THE ASSESSMENT OF THE PROPOSED DEVELOPMENT

5.5.1. This section outlines the phases of the Proposed Development that have been assessed, together with the approach to the baseline conditions, future baseline conditions, cumulative effects and design tolerances. It also sets out the overarching approach to the EIA, together with project specific requirements for the assessment of effects.

5.5.2. The Proposed Development has been assessed against the description, design principles and tolerances and supporting plans as detailed in **Volume 1, Chapter 3: Description of the Proposed Development**. The maximum extent of the planning application boundary and building footprint / height has been assessed as the worst-case scenario. There is therefore some degree of flexibility to allow the Proposed Development to evolve (i.e. reduce in size) if necessary.

### BASELINE SCENARIO

5.5.3. Baseline information (environmental characteristics and conditions) has been collated, based upon surveys undertaken and desk-based information available at the time of the assessment. Technical **Volume 1, Chapters 6 to 15** provide details of the baseline information and a summary is provided in **Volume 1, Chapter 2: The Existing Site**. Any limitations in establishing the baseline are described in technical **Volume 1, Chapters 6 to 15**.

5.5.4. The baseline conditions for the purpose of the ES are representative conditions as of November 2025, any differences from this scenario will be clearly outlined within technical **Volume 1, Chapters 6 to 15**.

5.5.5. The dates of surveys and the dates when data sources have been accessed are provided within technical **Volume 1, Chapters 6 to 15**.

5.5.6. A summary of existing baseline conditions is provided in technical **Volume 1, Chapters 6 to 15** and also summarised in **Volume 1, Chapter 2: The Existing Site**.

### FUTURE BASELINE

5.5.7. The assessment has also taken into consideration the likely evolution of the current state of the environment (baseline scenario) without implementation of the Proposed 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, known as the future baseline.

**5.5.8.** The future baseline scenario is summarised in **Volume 1, Chapter 2: The Existing Site** and technical **Volume 1, Chapters 6 to 15.**

5.5.9. Due to the limitations, necessary assumptions and lack of evidence associated with the future baseline (i.e. it cannot be accurately measured), a detailed consideration of the effects of the Proposed Development against the future baseline would generally not result in a robust assessment. However, consideration has been given, in descriptive terms, within each technical chapter to likely significant environmental effects arising from the Proposed Development in relation to the future baseline.

5.5.10. For some assessments, such as **Volume 1, Chapter 6: Air Quality**, **Volume 1, Chapter 10: Noise and Vibration** and **Volume 1, Chapter 12: Transport** projections are a required part of the methodology. These assessments are dependent on traffic data which is based on a strategic model and for future scenarios have assumed that the opening year of the Proposed Development is 2028. Further detail is provided in each of these chapters, where relevant. For all other chapters, it is assumed that the total duration of the construction period would be approximately 13 years.

### PHASES OF THE PROPOSED DEVELOPMENT

5.5.11. Consideration has been given to construction and operational phases of the Proposed Development. An overall summary of the anticipated construction and operational phase timeframes is presented in **Volume 1, Chapter 3: Description of the Proposed Development**, which has been considered in technical **Volume 1, Chapters 6 to 15**.

### DESIGN PRINCIPLES

**5.5.12.** Further information regarding design principles is provided in the **Design and Access Statement**, and **Volume 1, Chapter 3: Description of the Proposed Development**. There will be a degree of flexibility within some of the parameter plans to allow the Proposed Development to evolve through the detailed design stages and reserved matters applications. These parameter plans are outlined in **Volume 1, Chapter 3: Description of the Proposed Development.**

### ASSESSMENT CRITERIA

5.5.13. The classification of each effect identified has been assessed based on the magnitude of change (or impact) due to the Proposed Development and the sensitivity / value of the affected receptor to change, as well as a number of other factors that are outlined in more detail below. The classification of residual effects has been assessed with regard to the extent to which additional mitigation measures will avoid, prevent, reduce or, if possible, offset adverse effects of enhance beneficial effects.

5.5.14. The assessment of likely effects presented in technical **Volume 1, Chapters 6 to 15** have taken into account a number of criteria to determine whether or not the likely effects are significant in terms of the EIA Regulations. Wherever possible and appropriate, the effects have been assessed quantitatively. The following criteria have been taken into account when classifying the likely effects:

- Relevant legislation and planning policy;
- International, national, regional and local standards;
- Likelihood of occurrence of the effect;
- Geographical extent of effect;
- Sensitivity and / or value of the receptor;
- Magnitude and complexity of impact;
- Whether the effect is temporary or permanent;
- Duration (short, medium or long-term), frequency and reversibility of effect;
- Whether the effect is direct or indirect, secondary or transboundary;
- Inter-relationship between different effects (both cumulatively and in terms of likely effect interactions); and
- The outcomes of consultations.

5.5.15. Where factor specific methodology deviates from this approach, for example as a result of following factor specific guidance, this is set out in the methodology section of the technical chapter.

### SENSITIVITY / VALUE OF RECEPTORS

5.5.16. The sensitive receptors considered within this ES are identified within technical **Volume 1, Chapters 6 to 15**. The sensitivity of these receptors to change is also defined within technical **Volume 1, Chapters 6 to 15** and has been determined where available and appropriate by quantifiable data, the consideration of existing designations and professional judgement. The categories used (high, medium, low and negligible), unless otherwise stated, are shown in **Table 5-2**. Where factor specific methodology deviates from this approach, for example as a result of following factor specific guidance, this is set out in the methodology section of the technical chapter.

### MAGNITUDE OF CHANGE (IMPACT)

5.5.17. The magnitude of change (impact) is predicted as a deviation from the established baseline conditions, as a result of the Proposed Development. The magnitude of these changes is also defined within technical **Volume 1, Chapters 6 to 15** and has been determined where available and appropriate by quantifiable data, available appropriate national and international standards or limits (World Health Organisation (WHO) Limits, European Union (EU) Quality Standards, etc.) and professional judgement. The scale used (high, medium, low and negligible), unless otherwise stated, is shown in **Table 5-2**.

5.5.18. The magnitude of change identified is based on the peak potential magnitude of change, i.e. the greatest likely magnitude of change that may be experienced by a sensitive receptor (existing or proposed).

### CLASSIFYING EFFECTS

5.5.19. Determining the classification of effects has been undertaken using professional judgements (assumptions and value systems) that underpin the attribution of significance. Each effect has been assessed against the sensitivity of the receptor and the magnitude of change, as shown in **Table 5-**

**2**. Where more than one effect classification exists for any given scenario (e.g. slight or moderate), professional judgement is used to assign a single effect classification.

**Table 5-2 – Matrix of Classifying Effects**

| | | Sensitivity of Receptor / Receiving Environment to Change | | | |
|---|---|---|---|---|---|
| | | **High** | **Medium** | **Low** | **Negligible** |
| **Magnitude of Change** | **High** | Major | Major | Moderate | Negligible |
| | **Medium** | Major | Moderate | Minor to Moderate | Negligible |
| | **Low** | Moderate | Minor to Moderate | Minor | Negligible |
| | **Negligible** | Negligible | Negligible | Negligible | Negligible |

5.5.20. The terms as used within **Table 5-2** have been defined below, applying to both beneficial and adverse effects:

- **Major beneficial or adverse effect** – where the Proposed Development would cause a large improvement (or deterioration) to the existing environment;
- **Moderate beneficial or adverse effect** – where the Proposed Development would cause a noticeable improvement (or deterioration) to the existing environment;
- **Minor beneficial or adverse effect** – where the Proposed Development would cause a small improvement (or deterioration) to the existing environment; and
- **Negligible** – no discernible improvement or deterioration to the existing environment as a result of the development.

5.5.21. Unless otherwise stated in the technical chapters of this ES, effects that are classified as **moderate or above** are considered to be significant. Effects classified as **below moderate** are considered to be not significant.

5.5.22. Tables summarising the potential effects associated with each factor, required mitigation measures and residual effects are provided at the end of each technical chapter. The tables provide a clear distinction of the type of effect:

- Beneficial or adverse;
- Permanent or temporary;
- Direct or indirect;
- Short, medium or long-term;
- Secondary, cumulative or transboundary; and
- Significant or not significant.

**5.5.23.** In terms of the duration of an effect, short-term has been considered as 2 year(s) (or below), a medium-term effect has been considered to be between 2 and 10 years in duration and a long-term effect has been considered to be greater than 10 years in duration. Any variation to these definitions arising, for example, from differences in assessment methodology or guidance is explained in technical **Volume 1, Chapters 6 to 15.**

### MITIGATION AND MONITORING

5.5.24. Additional (secondary and tertiary) mitigation describes actions that will require further activity in order to achieve the anticipated outcome, and measures that 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. Examples of secondary mitigation include additional detailed design, for example to comply with proposed lighting limits. Examples of tertiary mitigation include considerate contractor's practices that manage activities which have potential nuisance effect (e.g. through the implementation of a CEMP).

5.5.25. Where likely significant adverse effects have been identified in the assessment, measures to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment are described. Monitoring is required where there are significant adverse residual effects. In some cases, for instance where there is uncertainty of residual effects remain, it may also be appropriate to implement monitoring.

5.5.26. Proposed additional mitigation and monitoring measures are set out within technical chapters where necessary. **Volume 1, Chapter 3: Description of the Proposed Development** sets out the embedded (primary) mitigation required as part of the Proposed Development. The mechanism by which the measures are to be secured is also recorded.

## 5.6. CUMULATIVE EFFECTS

5.6.1. Schedule 4(5)(e) of the EIA Regulations states that the ES should include a description of the likely significant effects of the Proposed Development on the environment resulting from:

'the cumulation of effect with other existing and / or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources.'

*5.6.2.* Regulation (4)(2)(e) refers to the need to assess:

*'the interaction between the factors referred to in sub-paragraphs (a) to (d).'*

5.6.3. There is no formal methodology or best practice for assessing cumulative effects, although various guidance documents exist. The following approach has been adopted for the assessment of cumulative effects, based on previous experience, the types of receptors being assessed, the nature of the Proposed Development, the other developments under consideration and the information available to inform the assessment. The approach was outlined in the 2025 EIA Scoping Report (**Volume 2, Appendix 1.1**). The assessment of cumulative effects is presented in technical **Volume 1, Chapters 6 to 15** and **Volume 1, Chapter 16: Cumulative Effects**.

5.6.4. Effect interactions, or intra-project effects, are the combined or synergistic effects caused by the combination of effects of the Proposed Development on a particular receptor which may collectively cause a greater effect than individually. In-combination, or inter-project effects are the combined effects of the Proposed Development on a common receptor together with other developments.

5.6.5. Further details regarding the scope and methodology of the assessment of cumulative effects, the identification of relevant Cumulative Developments and a description of those included within the assessment are provided in **Volume 1, Chapter 16: Cumulative Effects**.

5.6.6. Through analysis of HDC's online planning portal (**Ref. 5.4**), a number of Cumulative Developments have been identified and are considered within this ES. The list of Cumulative Developments has

been agreed with HDC and are presented in **Volume 1, Chapter 16: Cumulative Effects**. Agreement upon these Cumulative Developments has been sought from HDC.

## 5.7. ENVIRONMENTAL ENHANCEMENT

5.7.1. Although not a requirement of the EIA Regulations, opportunities for environmental enhancement are also explored. However, environmental enhancement measures are not taken account of in the assessment of likely significant effects.

5.7.2. A number of environmental enhancement measures have been incorporated into the wider design and landscaping of the Site. These include four distinct landscape character areas named: Great House Commons (set within the immediate setting of the existing heritage asset Great House Farm); the Arboretum Quarter (at the northern extent of the Site structured around existing woodland and new tree planting); Southern Fringe Meadows (an area to the south of the Site comprising a series of open fields and connected green spaces sitting alongside Courtland Wood, Two Mile Ash Gill and the Downs Link disused railway line); and the Green Spine (a primary movement corridor through the Site, connecting the other character areas through green corridors whilst prioritising walking and cycling).

5.7.3. The proposals seek to retain existing features as much as possible, including mature trees, hedgerows and vegetation along watercourses, protecting all areas of Ancient Woodland, and enriching areas through planting of native woodland and plant species, as well as enhancing the continuity of green corridors throughout and surrounding the Site.

5.7.4. Additional information on environmental enhancement measures can be found in **Volume 1, Chapters 6 to 15**, and the Design and Access Statement.

## 5.8. LIMITATION AND ASSUMPTIONS

5.8.1. Schedule 4(6) of the EIA Regulations states that an ES should include:

*'...details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved…'*

5.8.2. Where there are limitations or assumptions used within the EIA, these are clearly identified in this ES. Assumptions specific to certain assessments have been identified in the appropriate technical **Volume 1, Chapters 6 to 15**.

## 5.9. REFERENCES


- **Reference 5.1**: Town and Country Planning (Environmental Impact Assessment) Regulations 2017. Statutory Instrument 2017 No. 571.
- **Reference 5.2**: Planning Practice Guidance. [Online] accessed via https://www.gov.uk/government/collections/planning-practice-guidance
- **Reference 5.3**: Zetica UXO (2025). Risk Maps. Available at: https://zeticauxo.com/guidance/risk-maps/ [Accessed September 2025].
- **Reference 5.4**: Horsham District Council Planning Portal. [Online] accessed via https://public-access.horsham.gov.uk/public-access/

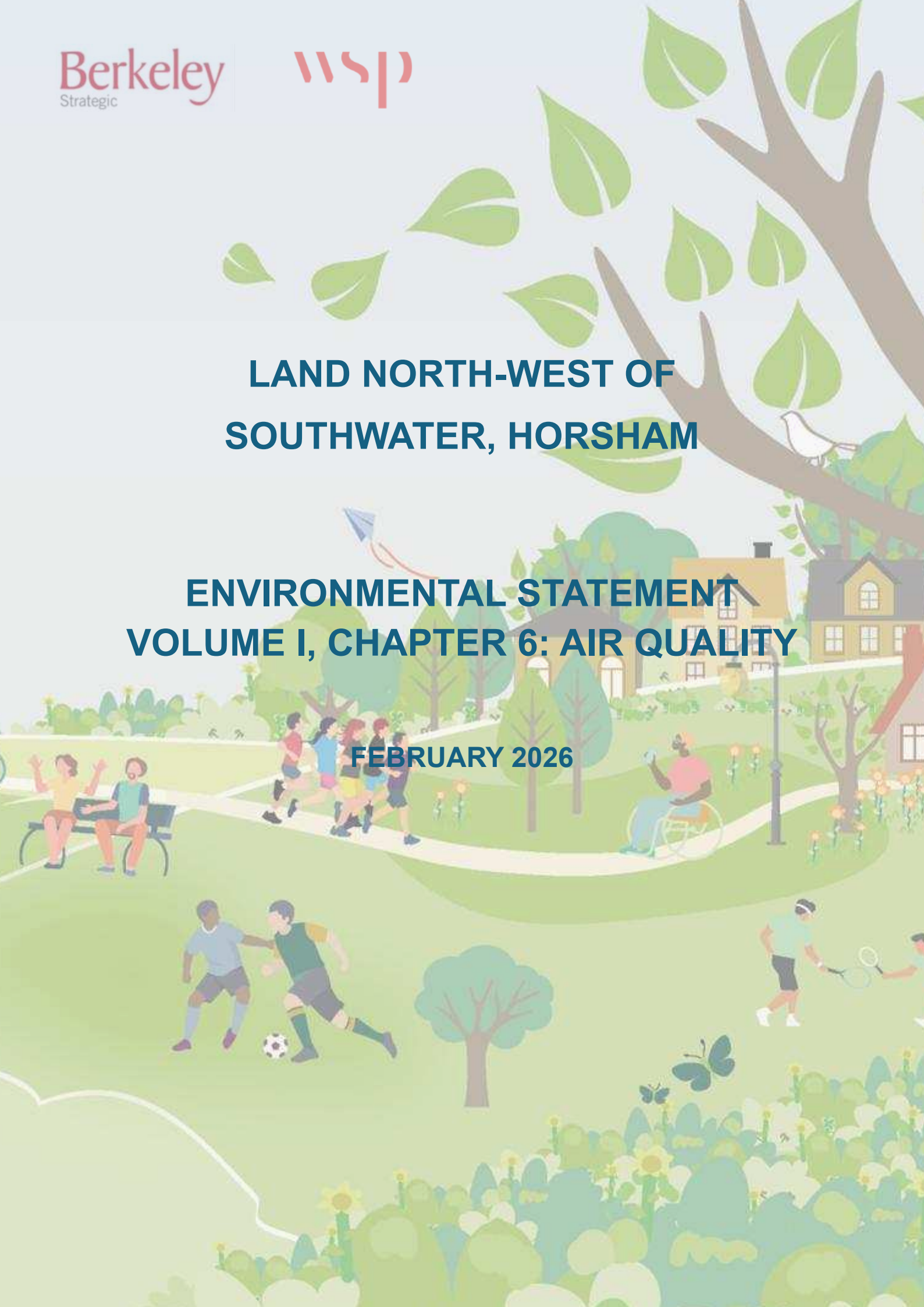
WSP House
70 Chancery Lane
London
WC2A 1AF

**wsp.com**

# LAND NORTH-WEST OF SOUTHWATER, HORSHAM

# ENVIRONMENTAL STATEMENT VOLUME I, CHAPTER 6: AIR QUALITY

FEBRUARY 2026



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# 6. AIR QUALITY

## 6.1. INTRODUCTION

6.1.1. This chapter reports the outcome of the assessment of likely significant effects arising from the Proposed Development on Air Quality.

6.1.2. This chapter describes the assessment methodology and the baseline conditions relevant to the assessment, which have been used to reach these conclusions. Additionally, it includes a summary of the likely significant effects leading to the additional mitigation measures required to avoid, prevent, reduce or, if possible, offset any likely significant adverse effects, and the likely residual effects and any required monitoring after these measures have been employed. Opportunities for environmental enhancement, where such opportunities exist, are also discussed.

6.1.3. The assessment of air quality has established that the following additional mitigation measures are required:

- A Dust Management Plan (DMP) will ensure effective control of construction dust. This is to be prepared and implemented by the Principal Contractor for the construction phase in accordance with guidance on construction dust issued by the Institute of Air Quality Management (IAQM) (Ref 6.1) and submitted to Horsham District Council (HDC) for approval before works commence on Site. This is to be secured by a planning condition.

6.1.4. The following residual effects have been identified:

- During the construction phase there is likely to be a direct, temporary, medium-term negligible adverse residual effect on human and ecological receptors (‘not significant’); and
- During the operational phase of the development there is likely to be a direct, permanent, medium-term negligible adverse residual effect on human receptors (‘not significant’).

6.1.5. The following monitoring requirements have been identified:

- Monitoring arrangements for construction dust are to be agreed between the Principal Contractor for the construction phase and HDC as part of the DMP; and
- No requirement for the operational phase.

6.1.6. This chapter (and its associated figures and appendices) is intended to be read as part of the wider ES, with particular reference to **Volume 1, Chapters 1-5,** and **Volume 1, Chapter 12 Traffic and Transport.**

## 6.2. CONSULTATION, SCOPE, METHODOLOGY AND SIGNIFICANCE CRITERIA

### CONSULTATION UNDERTAKEN TO DATE

6.2.1. **Table 6-1** provides a summary of the consultation activities undertaken in support of the preparation of this assessment.

**Table 6-1 - Summary of Consultation Undertaken**

| Body / Organisation | Individual / Stat Body / Organisation | Meeting Dates and other forms of Consultation | Summary of Outcome of Discussions |
|---|---|---|---|
| Horsham District Council (HDC) | HDC Environmental Planning Officer (Anna Czerska) and Senior Planning Officer (Angela Moore) | 13 June 2022 (online meeting) | Confirmation that the proposed scope and methodology for air quality assessment is acceptable and the requirement for a mitigation plan for air quality as required by SUSSEX-air's Air Quality and Emissions Mitigation Guidance for Sussex (2021) (Ref 6.2). |
| HDC | Planning Department | Scoping Opinion (received 15 December 2025) | The following comments were received:<br>*Reference should be made to HDC's 2025 Air Quality Annual Status Report (Ref 6.3).*<br>*The assessment should be transparent and thus, where reasonable, all input data used, assumptions made, and the methods applied should be detailed in the report (or appendices).*<br>*As the development is being built, other receptors will be created, these should be identified and considered.*<br>Proposed Receptors are considered within the construction and operational phase assessment as outlined in **Section 6.5** and **Section 6.6**.<br>*The assessment is to be undertaken with regard to:*<br>▪ *SUSSEX-air's Air Quality and Emissions Mitigation Guidance (Ref 6.2);*<br>▪ *The Institute of Air Quality Management (IAQM) guidance (Ref 6.1, 6.4, 6.5);*<br>▪ *Defra interim planning guidance on $PM_{2.5}$ targets (Ref 6.6); and*<br>▪ *Natural England advice for local authorities on air pollution (Ref 6.7)*<br>*Mitigation measures should be informed by SUSSEX-air's Air Quality and Emissions Mitigation Guidance (Ref 6.2).*<br>Damage cost assessment in line with the SUSSEX-air's Air Quality and Emissions Mitigation Guidance is presented in **Appendix 6.5: Damage Cost Calculations.**<br>*The development will be introducing new receptors close to Horsham waste water treatment works (WWTW) and there is the potential for those new occupants to be affected by odours. It is advisable that that developer hold discussions with the operator of Horsham WWTW.* |

| Body / Organisation | Individual / Stat Body / Organisation | Meeting Dates and other forms of Consultation | Summary of Outcome of Discussions |
|---|---|---|---|
| | | | Assessment of odours has been scoped out as outlined in **Table 6-2**. |

## SCOPE OF THE ASSESSMENT

6.2.2. The scope of this assessment has been established through an ongoing scoping process. Further information can be found in **Volume 1, Chapter 5: Approach to EIA**. The key points made with respect to the air quality assessment in the Scoping Opinion, and details of how these comments have been addressed, are provided in **Volume 2, Appendix 1.2 Scoping Opinion Responses**.

6.2.3. The focus of this assessment is on the impacts at sensitive receptors resulting from emissions to air of dust from construction activities, and oxides of nitrogen (NOx), coarse particulate matter ($PM_{10}$) and fine particulate matter ($PM_{2.5}$) due to road traffic.

6.2.4. This section provides an update to the scope of the assessment and the evidence base for scoping out elements following further iterative assessment.

## ELEMENTS SCOPED OUT OF THE ASSESSMENT

6.2.5. The elements shown in **Table 6-2** are not considered to give rise to likely significant effects as a result of the Proposed Development and have therefore not been considered within this assessment:

**Table 6-2 - Elements Scoped out of the Assessment**

| Element Scoped out | Justification |
|---|---|
| Exhaust emissions from non-road mobile machinery (NRMM) affecting local air quality | Operation of NRMM will be limited to working hours and only when and where required within the Site. Exhaust emissions are unlikely to have a substantial impact on pollutant concentrations at sensitive receptor locations as per Defra's Local Air Quality Management Technical Guidance LAQM.TG(22) (Ref 6.8) Section 7.30:<br>"*Experience of assessing the exhaust emissions from on-site plant (NRMM) and site traffic suggests that, with suitable controls and site management, they are unlikely to make a significant impact on local air quality.*"<br>Based on professional judgement and from experience of assessing similar schemes to the Proposed Development, emissions from NRMM are not expected to result in significant effects and have therefore been scoped out. |

| Element Scoped out | Justification |
|---|---|
| Road traffic emissions affecting local air quality during the construction phase | Additional vehicles movements on the public road network do not exceed EPUK IAQM guidance scoping criteria:<br>These criteria are thresholds above which change in traffic flow and emissions could result in noticeable change in local air quality with regard to human health. The thresholds for identifying affected roads are:<br>▪ A change of light-duty vehicle (LDV) flows of more than 500 annual average daily traffic (AADT) outside of an Air Quality Management Area (AQMA); or<br>▪ A change of heavy-duty vehicle (HDV) flows of more than 100 AADT outside of an AQMA. |
| Road traffic emissions affecting protected ecological sites covered by Natural England advice for local authorities on air pollution. | There are no qualifying protected ecological sites (i.e., Special Areas of Conservation, Special Protection Areas, RAMSAR wetlands of international importance or Sites of Special Scientific Interest) within 200m for affected roads. Air quality impacts on these protected ecological sites have therefore been scoped out as unlikely to be significant.<br>The effects of air quality on other ecological receptors that are not covered by Natural England advice is considered further in Chapter 8: Ecology. |
| Odour encroachment from Horsham WWTW | The WWTW is over 1km to the north-east of any new sensitive receptor within the Site. With reference to IAQM guidance on odour (Ref 6.9), considering a south-westerly prevailing wind and the separation distance there is likely to be a low risk of odour from the WWTW affecting amenity at the Site. |

**ELEMENTS SCOPED INTO THE ASSESSMENT**

**Construction Phase**

6.2.7. The following elements are considered to have the potential to give rise to likely significant effects during construction of the Proposed Development and have therefore been considered within this assessment:

- Construction dust affecting amenity through increased surface soiling, human health due to increase concentrations of $PM_{10}$ and $PM_{2.5}$.

**Operational Phase**

6.2.8. The following elements are considered to have the potential to give rise to likely significant effects during operation of the Proposed Development and have therefore been considered within this assessment:

- Road traffic emissions affecting human health due to changes in concentrations of nitrogen dioxide ($NO_2$), $PM_{10}$ and $PM_{2.5}$.

## EXTENT OF THE STUDY AREA

### Construction Phase

6.2.9. The study area for construction dust impacts is limited by IAQM guidance (Ref 6.1) to within 250m of construction areas which has been assumed for the purpose of this assessment to be the entire area within the Site boundary, as shown in **Volume 1, Figure 6-1: Air Quality Assessment Study Area**. Beyond the distance of 250m all impacts due to construction dust are unlikely to give rise to a significant effect.

6.2.10. There are several human receptors within 250m of the Site boundary. To the north of the Site is the A24, Worthing Road to the east, Bonfire Hill to the south and Marlpost Road and Two-Mile Ash Road to the west. There are a series of residential properties adjacent to these roads, particularly along the eastern side of Worthing Road.

6.2.11. There are also three schools and one retirement home within 250m of the Site boundary.

6.2.12. Furthermore, new receptors will be introduced within the Site boundary during the construction work.

6.2.13. There are three areas of Ancient Woodland located within the Site. These are Smith's Copse, Courtland Wood and Two-Mile Ash Gill; and one Local Wildlife Site (Courtland Wood).

### Operational Phase

6.2.14. The study area for road traffic emissions is limited to within 200m from affected roads. Affected roads have been identified by applying Environmental Protection UK (EPUK) IAQM guidance (Ref 6.5) screening criteria. The distance of 200m from affected roads is considered the limit beyond which significant effects due to changes in road traffic emissions are unlikely to occur. The study area for operational phase traffic emissions impacts is shown in **Volume 1, Figure 6-1: Air Quality Assessment Study Area**.

## METHOD OF BASELINE DATA COLLATION

### DESK STUDY

6.2.15. The baseline conditions for air quality described in this chapter have been determined through a desk-study of publicly available information, including:

- HDC's 2025 Air Quality Annual Status Report (ASR) (Ref 6.3) for local air quality monitoring data in recent years, latest status of compliance with air quality standards and progress on HDC measures to improve air quality;
- The UK National Atmospheric Emissions Inventory (Ref 6.10) for details of the different sources of NOx, $PM_{10}$ and $PM_{2.5}$ emissions in the surrounding area;
- Environment Agency Public Register of Installation Permits (Ref 6.11) and HDC Environmental Permit Register (Ref 6.12) for details of any regulated emissions of NOx, $PM_{10}$ and $PM_{2.5}$;
- The UK AIR website (Ref 6.13) for forecast background pollutant concentrations;
- Ordnance Survey OpenData (Ref 6.14) for base mapping showing different land-use characteristics; and
- Google Earth on desktop (Ref 6.15) and Google StreetView (Ref 6.16) to confirm receptor locations.

### SURVEYS

6.2.16. No baseline air quality surveys were conducted. Sufficient baseline data to support the assessment were available from published sources including HDC.

### ASSESSMENT METHODOLOGY

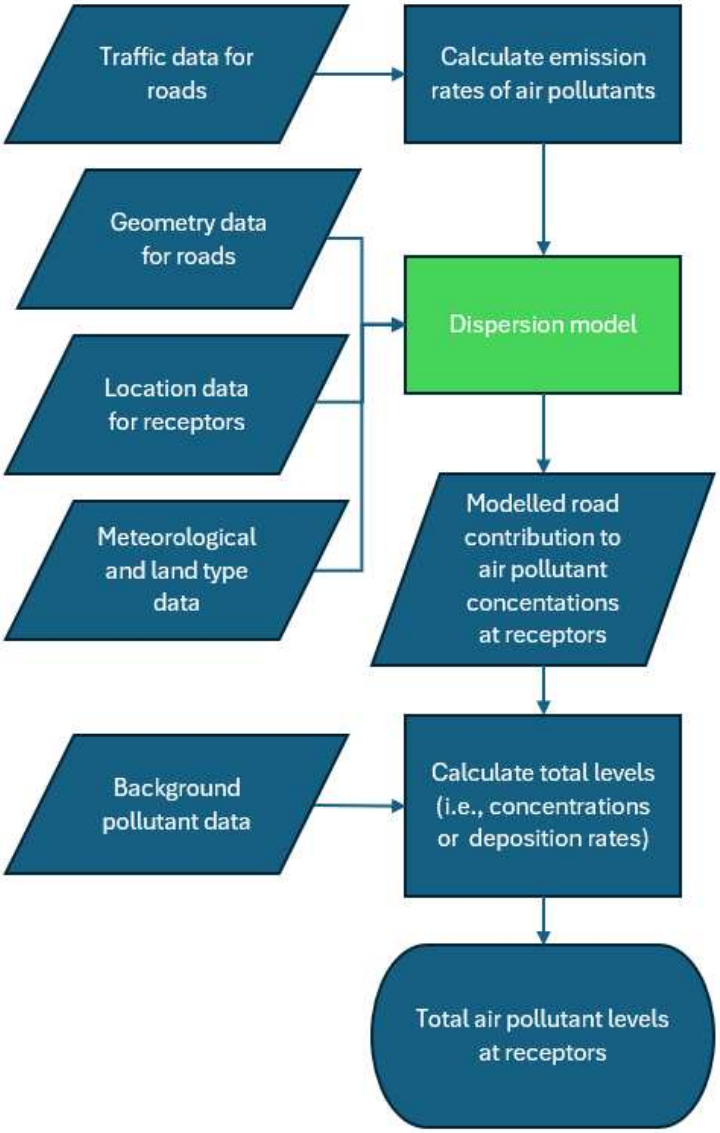
#### Construction Dust

6.2.17. The methodology set out in IAQM guidance concerning the assessment of dust from demolition and construction (Ref 6.1) was followed. The methodology enables determination of the relative risks of dust from four main sources: demolition, earthworks, construction and trackout, in relation to three impact categories: dust soiling (clean surfaces become dirty), human health (due to elevated $PM_{10}$ and $PM_{2.5}$ concentrations in ambient air) and ecological (dust deposition on vegetation). By understanding the relative risks of dust impacts, the appropriate level of mitigation be determined. Key details of the assessment methodology are provided **Volume 2, Appendix 6-1: Construction Dust Assessment Methodology**. A copy of the IAQM guidance is available to view and download from the IAQM website (Ref 6.1).

## ROAD TRAFFIC EMISSIONS

The impacts of predicted changes in road traffic movements and emissions on ambient concentrations of $NO_2$, $PM_{10}$ and $PM_{2.5}$ at human receptors were determined by detailed dispersion modelling. The dispersion modelling process is illustrated in the flow diagram in **Image 6-1**.

**Image 6-1 - Process of Detailed Dispersion Modelling for Road Traffic Emissions**




6.2.18. The traffic data used were provided by the WSP Transport Modelling team. The data are included for reference in **Volume 2, Appendix 6-2: Traffic Data**. Modelled road source geometry was based on Ordnance Survey OpenData mapping (Ref 6.14), with road widths measured from satellite images in Google Earth (Ref 6.15). The modelled road sources are illustrated in **Volume 1, Figure 6-2: Modelled Roads**.

6.2.19. Details of emission rate calculations, dispersion model software and set-up, meteorological data and calculation of total pollutant level* as well as the process of model verification are provided in **Volume 2, Appendix 6-3: Dispersion Modelling Methodology**. This appendix includes references to other technical guidance that was used in the assessment that is not referenced in this chapter. (*Note: the term 'level' can be substituted for 'concentration' or 'deposition rate' depending upon the pollutant in question.)

6.2.20. Details of human receptors together with background pollutant levels are given **Volume 2, Appendix 6-4: Modelled Human Receptors and Background Pollutant Concentrations**. The locations of human receptors are shown in **Volume 1, Figure 6-3: Modelled Human Receptors**.

6.2.21. Three scenarios were modelled:

- 2024 base year, representing current conditions and enabling model verification by comparing modelled concentrations against published monitoring data for 2024;
- 2036 reference case or 'do-minimum scenario' (DM); and
- 2036 with the Proposed Development or 'do-something scenario' (DS).

6.2.22. To determine the change in pollutant level at each receptor the DM level was subtracted from the DS level. This change, together with the total DM and DS predicted levels, were then used to describe the impact (discussed below).

6.2.23. Damage costs were calculated for road traffic emissions in accordance with SUSSEX-air's Air Quality and Emissions Mitigation Guidance (Ref 6.2). This calculation is included in **Volume 2, Appendix 6-5: Damage Cost Calculation**.

**SIGNIFICANCE CRITERIA**

**Construction Dust**

6.2.24. Following the IAQM guidance on construction dust assessment (Ref 6.1), the magnitude of impact from fugitive dust emissions in the construction phase was described in relative terms as 'high risk', 'medium risk', 'low risk', or 'negligible'. The relative risk of potential dust soiling, human health and ecological impacts is determined using professional judgement – taking into consideration the dust emission magnitude ('large', 'medium', or 'small') and sensitivity of the area ('high', 'medium', or 'low') for demolition, earthworks, construction and trackout.

6.2.25. The IAQM guidance on construction dust assessment (Ref 6.1) advises that significance should be determined only after mitigation measures have been considered. On this basis, the significance is only reported for the residual effects.

**Road Traffic Emissions**

6.2.26. Guidance published by the IAQM on describing air quality impacts and determining the significance of effect (Ref 6.5) was followed. The table below (**Table 6-3**) was adapted from this and sets out how the impacts for individual human receptors were described. In-line with air quality standards (**Section 6.3** in **Table 6-4**), only receptors where the public is likely to be present over averaging periods that are specified in legislation are considered. Such receptors are regarded as highly sensitive to impacts and typically include residential premises, schools and hospitals, but may also include public footpaths, busy shopping streets, gardens and play areas when there is particular concern about short-term exposure. It should be noted that the impact descriptors in **Table 6-3** only apply to annual mean concentrations; however, impacts on short-term concentrations (i.e., 1-hour mean $NO_2$ and 24-hour mean $PM_{10}$) were also considered by applying proxy metrics for annual mean concentrations as recommended LAQM.TG(22) (Ref 6.8) (these are given in under **Section 6.3** in **Table 6-4**).

**Table 6-3 – Impact Descriptors for Individual Human Receptors**

| Annual Mean Concentration at Receptor in Assessment Year | Percentage Change in Concentration Relative to the Air Quality Standard | | | |
|---|---|---|---|---|
| | 1% | 2-5% | 6-10% | >10% |
| 75% or less than the air quality standard | Negligible | Negligible | Minor | Moderate |
| 76-94% of the air quality standard | Negligible | Minor | Moderate | Moderate |
| 95-102% of the air quality standard | Minor | Moderate | Moderate | Substantial |
| 103-109% of the air quality standard | Moderate | Moderate | Substantial | Substantial |
| 110% or more of the air quality standard | Moderate | Substantial | Substantial | Substantial |

Notes:

The table is intended to be used by rounding the change in percentage pollutant concentration to whole numbers, which then makes it clearer which cell the impact falls within. The user is encouraged to treat the numbers with recognition of their likely accuracy and not assume a false level of precision. Changes of 0%, i.e. less than 0.5%, will be described as 'negligible'. Also, any change that is less than 1% of the air quality standard is considered to be 'imperceptible'.

Descriptors for individual receptors only; the overall significance is determined using professional judgement. For example, a 'moderate' adverse impact at one receptor may not mean that the overall impact has a significant effect. Other factors need to be considered.

When defining the concentration as a percentage of the air quality standard, 'without Proposed Development' (i.e., DM) concentration should be used where there is a decrease in pollutant concentration and the 'with Proposed Development' (i.e., DS), concentration where there is an increase.

Where concentrations increase, the impact is described as adverse, and where it decreases as beneficial.

**EFFECT SIGNIFICANCE**

6.2.27. The following terms have been used to define the significance of the effects identified and apply to both beneficial and adverse effects (note: these are only used in relation to human receptors):

- **Major effect**: where the Proposed Development could be expected to have a substantial improvement or deterioration on receptors;
- **Moderate effect**: where the Proposed Development could be expected to have a noticeable improvement or deterioration on receptors;
- **Minor effect**: where the Proposed Development could be expected to result in a perceptible improvement or deterioration on receptors; and
- **Negligible**: where no discernible improvement or deterioration is expected as a result of the Proposed Development on receptors, including instances where no change is confirmed.

6.2.28. As set out in **Volume 1, Chapter 5: Approach to EIA**, effects that are classified as **moderate or above** are considered to be **significant**. Effects classified as below **moderate** are considered to be **not significant**.

## 6.3. LEGISLATIVE FRAMEWORK AND POLICY

6.3.1. A summary of the legislation and policy followed for authoring this chapter is outlined below, with a full overview provided in **Volume 2, Appendix 5.2: Policy, Legislation and Guidance**.

### LEGISLATIVE FRAMEWORK

#### Primary Legislation

- The Environmental Protection Act 1990 (Ref 6.17); and
- The Environment Act 1995 (Ref 6.18) and The Environment Act 2021 (Ref 6.19).

#### Secondary Legislation

- The Air Quality (England) Regulations 2000 (Ref 6.20) and The Air Quality (England) (Amendment) Regulations 2002 (Ref 6.21) set out the air quality objectives to be met under Environment Act 1995 (as amended 2021). The air quality objectives that are relevant to this assessment are given in **Table 6-4**;
- The Air Quality Standards Regulations 2010 (Ref 6.22) and The Air Quality Standards (Amendment) Regulations 2016 (Ref 6.23) requires the Secretary of State (and devolved administrations) to ensure ambient air quality meets mandatory, legally binding limit values for air pollutants. The air quality limit values that are relevant to this assessment are given in **Table 6-4**;
- The Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019 (Ref 6.24);
- The Environment (Miscellaneous Amendments) (EU Exit) Regulations 2020 (Ref 6.25) amends the limit value for annual mean $PM_{2.5}$ from 25µg/m$^3$ to 20µg/m$^3$; and
- The Environment Targets (Fine Particulate Matter) (England) Regulations 2023 (Ref 6.26) sets a new targets for annual mean $PM_{2.5}$ (see **Table 6-4**) exposure target to be met by 2040, which is after the expected completion of the Proposed Development in 2036.

**Table 6-4 – Relevant Air Quality Standards**

| Pollutant | Concentration in Micrograms per Cubic Metre (µg/m$^3$) | Number of Exceedances Allowed in a Calendar Year | Set in Regulations as |
|---|---|---|---|
| Annual mean nitrogen dioxide ($NO_2$) | 40 | None | Objective and limit value for the protection of public health |
| 1-hour mean $NO_2$ | 200 | No more than 18 (see note A) | Objective and limit value for the protection of public health |
| Annual mean nitrogen oxides (NOx) | 30 | None | Critical level for the protection of vegetation |
| Annual mean $PM_{10}$ (coarse particulate matter, less than 10 micrometres in diameter) | 40 | None | Objective and limit value for the protection of public health |
| 24-hour mean $PM_{10}$ | 50 | No more than 35 (see note B) | Objective and limit value for the protection of public health |

| Pollutant | Concentration in Micrograms per Cubic Metre (µg/m³) | Number of Exceedances Allowed in a Calendar Year | Set in Regulations as |
|---|---|---|---|
| Annual mean $PM_{2.5}$ (fine particulate matter, less than 2.5 micrometres in diameter) | 20 | None | Limit value for the protection of public health |
| Annual mean $PM_{2.5}$ | 12 | None | Interim target for 2028 (non-statutory) for the protection of public health |
| Annual mean $PM_{2.5}$ | 10 | None | Target for 2040 for the protection of public health |

Notes:

A – Department of Environment, Food and Rural Affairs (Defra) Local Air Quality Management (LAQM) technical guidance LAQM.TG(22) (Ref 6.8) advises that if the annual mean $NO_2$ concentration does not exceed 60µg/m³ then it is likely that the 1-hour mean $NO_2$ air quality standard is met.

B – Defra guidance LAQM.TG(22) (Ref 6.8) indicates that if the annual mean $PM_{10}$ concentration is less than 32µg/m³ then it is likely that the 24-hour mean $PM_{10}$ air quality standard is met.

### POLICY

- The National Planning Policy Framework (Ref 6.27);
- Environmental Improvement Plan 2023 (Ref 6.28);
- The Air Quality Strategy Framework for Local Authority Delivery (Ref 6.29);
- The Horsham District Planning Framework (Ref 6.30); and
- The emerging Horsham Local Plan 2023-2040 (Regulation 19).

## 6.4. BASELINE CONDITIONS

HDC monitors air quality at fixed locations across the district and reports annually to Defra. HDC's latest report gives monitored concentrations for the years 2020 to 2024 inclusive (Ref 6.3). In 2024, there were three monitoring locations within the study area (shown in **Volume 1**, **Figure 6-1: Air Quality Assessment Study Area**) for annual mean concentrations of $NO_2$:

- 'Southwater 1.1' at roadside on Worthing Road, near to Southwater Business Park (replacing 'Southwater 1', which was active until end of 2023 on Worthing Road opposite nursery);
- 'Southwater 2' at roadside on Worthing Road near Southwater Street (not active before 2024); and
- 'A281_A24' near to the southbound slip road on to the A24 at Farthings Hill Interchange (not active before 2024).

6.4.1. Annual mean $NO_2$ concentrations for 2024 at these sites were well below the air quality standard of 40µg/m³ (

6.4.3. Table 6-1) with the highest concentration of 13.5µg/m$^3$ occurring at Southwater 2. The dominant emissions source influencing concentrations at these locations is likely to be road traffic.

6.4.4. HDC currently has two AQMAs:

- Horsham AQMA No1 on West Street, the High Street, and part of School Hill and Manleys Hill, Storrington; and
- Horsham Cowfold AQMA incorporating The Street, part of Station Road and Bolney Road, Cowfold.

6.4.5. Both AQMAs were declared due to exceedances of the annual mean $NO_2$ air quality standard (**Table 6-1**) and are attributed to road transport emissions of NOx. Neither AQMA is within nor near the study area.

6.4.6. There are no air quality monitoring locations for other pollutants within the study area. The nearest HDC monitoring location that also measures $PM_{10}$ and $PM_{2.5}$ concentrations is 'HO2' at roadside on Horsham Park Way (shown in **Volume 1**, **Figure 6-1: Air Quality Assessment Study Area**) where annual mean concentrations of these pollutants were well below the respective air quality standards of 40µg/m$^3$ and 20µg/m$^3$ (**Table 6-1**).

6.4.7. The dominant source of NOx, $PM_{10}$ and $PM_{2.5}$ emissions in the study area is road transport (Ref 6.10) with other sources (Ref 6.11, Ref 6.12) reflected in background concentrations. Annual mean background concentrations for 2024 within the study area, as estimated by Defra (Ref 6.13), are for:

- $NO_2$ between 6.9 and 9.6µg/m$^3$;
- $PM_{10}$ between 9.9 and 11.7µg/m$^3$; and
- $PM_{2.5}$ between 6.1 and 6.7µg/m$^3$.

6.4.8. National forecasts of pollutant emissions and ambient concentrations considered in this assessment are generally downwards (i.e., air quality is generally improving over time). A general downward trend in $NO_2$ has also been observed in the HDC area over the period 2020-2024 inclusive although the trends for $PM_{10}$ and $PM_{2.5}$ are less clear.

6.4.9. In summary, current baseline air quality conditions within the study area (including the Site) are generally good, with ambient pollutant concentrations likely to be well below and meeting current air quality standards (**Table 6-1**).

### FUTURE BASELINE

6.4.10. At worst, future baseline air quality conditions will be similar to existing conditions. More likely, baseline air quality conditions will be better than at present, primarily due to increasing proportions of low and ultra-low / zero emissions vehicles within the local vehicle fleet. Expected emissions reductions of NOx, $PM_{10}$ and $PM_{2.5}$ across all sectors (transport, housing, industry, etc.) are reflected in vehicle emissions factors and predictions for background pollutant concentrations (see details included in **Volume 2, Appendix 6-3: Dispersion Modelling Methodology**).

6.4.11. In the 2036 reference case scenario (which represents future baseline conditions), modelled annual mean $NO_2$ concentrations at all receptors are predicted to be well below the air quality standard of 40µg/m$^3$. The maximum annual mean $NO_2$ concentration of 7.5µg/m$^3$ is at Receptor 27 (which is a residential receptor near Farthings Hill Interchange). As the predicted annual mean $NO_2$ concentrations are substantially below 60µg/m$^3$, 1-hour mean $NO_2$ concentrations are likely to meet the 1-hour mean air quality standard (**Table 6-4**).

6.4.12. Predicted 2036 annual mean $PM_{10}$ and $PM_{2.5}$ concentrations, as well as 24-hour mean $PM_{10}$ concentrations, are below the respective air quality standards at all existing receptor locations.

## 6.5. SENSITIVE RECEPTORS

### CONSTRUCTION DUST

#### Human Receptors

6.5.1. Following IAQM guidance (Ref 6.1), construction dust assessment is undertaken where there are:

- 'Human receptors' within 250m of the site boundary, or within 50m of the route(s) used by construction vehicles on the public highway, up to 250m from the site entrance(s); and / or
- 'Ecological receptors' within 50m of the site boundary, or within 50m of the route(s) used by construction vehicles on the public highway, up to 250m from the site entrance(s).

6.5.2. To the north of the Site is the A24, Worthing Road to the east, Bonfire Hill to the south and Marlpost Road and Two-Mile Ash Road to the west. There are a series of residential properties adjacent to these roads, particularly along the eastern side of Worthing Road.

6.5.3. There are also three schools and one retirement home within 250m of the Site boundary.

#### Ecological Receptors

6.5.4. There are three areas of Ancient Woodland located within the Site. These are Smith's Copse, Courtland Wood and Two-Mile Ash Gill; and one Local Wildlife Site (Courtland Wood).

### ROAD TRAFFIC EMISSIONS

#### Human Receptors

6.5.5. To complete the assessment of operational phase impacts, a number of human receptors representative of locations of relevant public exposure were identified at which pollution concentrations were predicted. Receptors have been located adjacent to the roads that are likely to experience the greatest change in traffic flows or composition, and therefore $NO_2$ and particulate matter concentrations, as a result of the Proposed Development.

6.5.6. The locations of the human receptors included in the assessment are shown on **Figure 6-3** and listed within **Appendix 6-4**.

## 6.6. ASSESSMENT OF POTENTIAL EFFECTS, MITIGATION AND RESIDUAL EFFECTS

### CONSTRUCTION PHASE

6.6.1. Construction activities that have the potential to generate and / or re-suspend dust and $PM_{10}$ include:

- Site preparation;
- Preparation of temporary access / egress to the site and haulage routes;
- Earthworks;
- Materials handling, storage, stockpiling, spillage and disposal;
- Movement of vehicles and construction traffic within the site;
- Exhaust emissions from site plant;
- Construction of buildings, roads and areas of hardstanding alongside fabrication processes;

- Internal and external finishing and refurbishment; and
- Site landscaping after completion.

6.6.2. Whilst detailed information regarding hours of working on the Site during the construction phase were not available, the majority of the releases are likely to occur during the 'working week' (Monday to Friday). In any event, this is expected to be controlled via an agreed Construction Environment Management Plan (CEMP). However, for some potential release sources (e.g. exposed soil produced from significant earthwork activities) in the absence of dust control mitigation measures, dust generation has the potential to occur 24 hours per day over the period during which such activities are to take place.

6.6.3. As information on the build out of the Proposed Development is not available, it has been assumed that construction activities will occur across the whole Site concurrently, which will provide a worst-case approach to the assessment. In practice, the construction would take place over a series of phases, as indicated on the submitted Indicative Phasing Plan, meaning that the actual effects will likely be lower than the assumed worst-case scenario.

**Potential Dust Emission Magnitude**

6.6.4. The IAQM methodology (Ref. 6.1) has been used to determine the potential dust emission magnitude for the following four different dust and $PM_{10}$ sources: demolition, earthworks, construction, and trackout. The findings of the assessment are presented below.

**Demolition**

6.6.5. To facilitate the construction of the Proposed Development, some buildings within the Site will be demolished. The total building volume is less than 20,000$m^3$. The construction material with low potential for dust release (e.g. metal cladding or timber) and demolition activities will be less than 10m above ground. Therefore, the potential dust emission magnitude has been estimated as small for demolition.

**Earthworks**

6.6.6. The total area of the Site is greater than 110,000$m^2$. The soil type is assumed to be moderately dusty. It is estimated that between 5 and 10 heavy earth moving vehicles will be active at any one time, and that the formation of bunds with a height of between 3 and 6 will occur. Therefore, the potential dust emission magnitude has been estimated as large for earthwork activities.

**Construction**

6.6.7. The total volume of buildings to be constructed on the Site is estimated to be over the IAQM range of 75,000$m^3$, with potentially dusty construction materials being used. Therefore, the potential dust emission magnitude has been estimated as large for construction activities.

**Trackout**

6.6.8. It is estimated that there will be between 20 and 50 HDV outward movements in any one day travelling on moderately dusty surface materials. Due to the size of the Site, it is also assumed that the length of unpaved roads within the Site will be greater than 100m. Therefore, the potential dust emission magnitude has been estimated as large for trackout.

6.6.9. A summary of the potential dust emission magnitude determined for each construction activity is presented in **Table 6-5**.

**Table 6-5 – Dust Emission Magnitude**

| Activity | Dust Emission Magnitude |
|---|---|
| Demolition | Small |
| Earthworks | Large |
| Construction | Large |
| Trackout | Large |

**Sensitivity of the Study Area**

6.6.10. A wind rose for 2024 generated using the meteorological data used for the dispersion modelling of road traffic impacts is provided in **Volume 2**, **Appendix 6-3: Dispersion Modelling Methodology**. This shows that the prevailing wind direction is from the south-west. Therefore, receptors located to north-east of the Site are more likely to be affected by dust and particulate matter emitted and re-suspended during the Proposed Development. However, under low wind speed conditions, it is likely that the majority of dust would be deposited in the area immediately surrounding the source (which may include the residential receptors along either side of the following roads: New Road, Courtlands and Welcome Place).

6.6.11. There are three areas of Ancient Woodland located within the Site. These are Smith's Copse, Courtland Wood and Two-Mile Ash Gill; and one LWS (Courtland Wood). In line with the IAQM guidance, the sensitivity of the area to ecological impacts is low.

6.6.12. Surrounding the eastern portion of the Site is a series of residential roads with a large number of residential properties located adjacent to them, which are all receptors of high sensitivity to changes in air quality during the construction phase. These roads include: Chessall Avenue, Bradford Mews, Eames View and College Road. Worthing Road acts as a connecting road between the above-mentioned series of residential roads. There are a number of educational facilities to the east of the Proposed Development including Southwater Junior and Infant Academies which are highly sensitive to changes in local air quality conditions. To the north-west of the Site is Christ's Hospital School and some residential properties..

6.6.13. Therefore, the sensitivity of the area to dust soiling effects on people and property due to the Proposed Development is high.

6.6.14. The background $PM_{10}$ concentrations in the area surrounding the Site are less than 24µg/m$^3$. Based on this and the information provided in the paragraph above on the type and number of sensitive receptors present near to the Site, the sensitivity of the area to human health impacts from increased ambient $PM_{10}$ concentrations due to the Proposed Development is medium.

6.6.15. The Site will be a large construction site, and therefore trackout may occur on roads up to 250m away from the access roads into and out of the Site.

6.6.16. In terms of the sensitivity of the area to dust soiling and increases in ambient $PM_{10}$ concentrations due to trackout, the residential properties located either side of a number of roads (including (Two Mile Ash Road, A24 (Pollards Way), Worthing Road, Bonfire Hill, Marlpost Road, Tower Hill, Christ's Hospital Road and some smaller residential roads) utilized by the construction vehicles could be affected by trackout.

6.6.17. The sensitivity of the study area for each of the construction activities is summarised in **Table 6-6** below.

**Table 6-6 – Sensitivity of the Study Area**

| Potential Impact | Demolition | Earthworks | Construction | Trackout |
|---|---|---|---|---|
| Dust Soiling | High | High | High | High |
| Human Health | Medium | Medium | Medium | Medium |
| Ecological | Low | Low | Low | Low |

**Risk of Impacts**

6.6.18. The predicted dust emission magnitude has been combined with the defined sensitivity of the area to determine the risk of impacts during the construction phase, prior to mitigation. **Table 6-7** below provides a summary of the risk of dust impacts for the Proposed Development. The risk category identified for each construction activity has been used to determine the level of mitigation required.

**Table 6-7 – Summary Dust Risk Table to Define Site Specific Mitigation**

| Potential Impact | Demolition | Earthworks | Construction | Trackout |
|---|---|---|---|---|
| Dust Soiling | Medium Risk | High Risk | High Risk | High Risk |
| Human Health | Low Risk | Medium Risk | Medium Risk | Medium Risk |
| Ecological | Negligible | Low Risk | Low Risk | Low Risk |

**Table 6-8 – Assessment of Potential Effects, Additional Mitigation, Residual Effects and Monitoring during Construction**

| Sensitive Receptor | Receptors within 250m of Site and / or within 50m of Trackout. |
|---|---|
| **Potential effects** | The IAQM guidance on construction dust assessment advises that significance should be determined only after mitigation measures have been considered. On this basis, the significance is only reported for the residual effects. |
| **Additional mitigation** | Mitigation for the construction phase of the development is required as per the above assessment. Mitigation measures identified within the IAQM guidance on construction dust for 'high risk' sites are required. Full list of mitigation measures can be found within the guidance, and includes, but are not limited to:<br>▪ Provision of a Dust Management Plan;<br>▪ Plan site layout so that machinery and dust causing activities are located away from receptors as far as possible; and<br>▪ Use water-assisted dust sweepers on the access and local roads. |

| Sensitive Receptor | Receptors within 250m of Site and / or within 50m of Trackout. |
|---|---|
| **Residual effects and monitoring** | The sensitivity of human receptors is high, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a direct, temporary, medium-term **negligible / adverse** residual effect on local human receptors ('**not significant**') following the implementation of mitigation measures.<br><br>The sensitivity of ecological receptors is low, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a direct, temporary, medium-term **negligible / adverse** residual effect on local human receptors ('**not significant**') following the implementation of mitigation measures. |

## OPERATIONAL PHASE

6.6.20. Full results of the dispersion modelling for the human receptors are presented in **Volume 1, Appendix 6-6: Modelled results for human receptors**, and a summary is provided below.

### Annual Mean $NO_2$ Concentrations

6.6.21. The air quality standard for annual mean $NO_2$ concentrations is 40µg/m$^3$ (**Table 6-4**). The results of the assessment show that in the 2036, the modelled concentrations at all existing human receptors are compliant with the air quality standard. The highest concentrations are predicted at Receptor 27 (residential receptor near Farthings Hill Interchange) where they are 7.5µg/m$^3$ for both the DM and DS (the change is less than 0.1µg/m$^3$).

6.6.22. The greatest increase in concentrations associated with the Proposed Development is 0.2µg/m$^3$, predicted at Receptor 12 and Receptor 16 (residential receptors on Christ's Hospital Road).

6.6.23. The predicted changes in annual mean $NO_2$ concentrations are negligible at all receptors. Therefore, the overall impacts of the Proposed Development will not be significant.

### 1-hour Mean $NO_2$ Concentrations

6.6.24. Annual mean $NO_2$ concentrations predicted at the sensitive receptors in the DM and DS were below 60µg/m$^3$, and therefore 1-hour mean $NO_2$ concentrations are unlikely to breach the air quality standard (**Table 6-4**). The impact of the Proposed Development on 1-hour mean $NO_2$ concentrations at existing sensitive receptors is negligible. Therefore, the overall impacts of the Proposed Development will not be significant.

### Annual Mean $PM_{10}$ Concentrations

6.6.25. The air quality standard for annual mean $PM_{10}$ concentrations is 40µg/m$^3$ (**Table 6-4**). Predicted concentrations of $PM_{10}$ are well below the annual mean objective at all receptors in the DM and DS. The highest concentration of 12.3µg/m$^3$ in the DM and DS, is predicted at Receptor 27.

6.6.26. Receptor 12 is predicted to experience the greatest increases in annual mean $PM_{10}$ concentrations of 0.3µg/m$^3$. This change is 1% of the relevant air quality standard. Therefore, the impacts of the Proposed Development on annual mean $PM_{10}$ concentrations are negligible at all receptors. Therefore, the overall impacts of the Proposed Development will not be significant.

### 24-hour Mean $PM_{10}$ Concentrations

6.6.27. The air quality standard for 24-hour mean $PM_{10}$ concentrations is 50µg/m$^3$ to be exceeded no more than 35 times a year (**Table 6-4**). The results of the dispersion modelling indicate that 24-hour $PM_{10}$ concentrations comfortably meet the air standard in the DM and DS.

6.6.28. The increased emissions associated with the Proposed Development will result in no changes to the number of days experiencing concentrations greater than 50µg/m$^3$ and therefore the impacts on 24-hour mean $PM_{10}$ concentrations are negligible at all receptors. Therefore, the overall impacts of the Proposed Development will not be significant.

### Annual Mean $PM_{2.5}$ Concentrations

6.6.29. Predicted annual mean concentrations of $PM_{2.5}$ are all well below the air quality standard of 20µg/m$^3$ (**Table 6-4**) in all modelled scenarios. The highest predicted concentration in the DM and DS is 6.7µ/m$^3$, which is predicted at Receptor 27, 28 and 30.

6.6.30. The predicted annual mean $PM_{2.5}$ concentrations are also well below the interim target concentration of 12µg/m$^3$ (deadline January 2028), and below the stricter target of 10µg/m$^3$ to be achieved by 2040. Therefore, the impacts on annual mean $PM_{2.5}$ concentrations are negligible at all receptors. Therefore, the overall impacts of the Proposed Development will not be significant.

### EXPOSURE OF FUTURE RESIDENTS

6.6.31. Predicted concentrations of $NO_2$, $PM_{10}$ and $PM_{2.5}$ are all below the relevant objectives at all proposed receptors within the Site boundary.

6.6.32. The highest predicted annual mean $NO_2$ concentration is 5.9µg/m$^3$, whilst the highest predicted annual mean $PM_{10}$ concentration is 10µg/m$^3$, with 0 days exceeding 50µg/m$^3$. The highest predicted $PM_{2.5}$ concentration is 5.9µg/m$^3$. Future residents are therefore likely to experience good ambient air quality.

**Table 6-9 – Assessment of Potential Effects, Additional Mitigation, Residual Effects and Monitoring during Operation**

| **Sensitive Receptor** | **All modelled existing and proposed human receptors (as detailed in Appendix 6-4 Modelled Human Receptors and Background Pollutant Concentrations)** |
|---|---|
| **Potential effects** | The sensitivity of modelled human receptors is high, and the magnitude of change is negligible. Therefore, there is likely to be a direct, temporary, medium-term **negligible adverse** effect on modelled human receptors (‘**not significant**’). |
| **Additional mitigation** | No additional mitigation is required. |

## 6.7. DIFFICULTIES AND UNCERTAINTIES

6.7.1. At the time that this ES chapter was written, detailed information regarding the likely construction phase activities was not available due to the outline nature of the planning application. Therefore, the construction dust assessment has been completed using the available or indicative information from the project team and professional judgement.

6.7.2. There are uncertainties associated with both measured and predicted concentrations. The model (ADMS-Roads) used in this assessment relies on input data (including predicted traffic flows), which also have uncertainties associated with them. The model itself simplifies complex physical systems into a range of algorithms. In addition, local micro-climatic conditions may affect the concentrations of pollutants that the models will not consider.

## 6.8. SUMMARY

6.8.1. The air quality assessment considered the impacts from the demolition and construction and operational stages of the Proposed Development. The assessment followed established best practice guidance issued by the Institute of Air Quality Management.

6.8.2. Emissions from the demolition and construction stage, including fugitive dust from work site areas, are likely to have a direct, temporary, short-term, **negligible** residual effect on human and ecological receptors (**not significant**) after the application of appropriate best practice mitigation measures.

6.8.3. Emissions of nitrogen oxides and particulate matter from operational stage road traffic would have a direct, permanent, long-term and **negligible** (**not significant**) residual effect.

6.8.4. Future users of the Proposed Development would not be exposed to poor air quality. No additional mitigation measures are required.

6.8.5. **Table 6-10** provides a summary of the findings of the assessment.

**Table 6-10 - Summary of Air Quality Effects**

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Construction Phase** | | | | | |
| Human and ecological receptors within 250m of site boundary | Fugitive dust and particulate matter emissions from construction activities. | The IAQM guidance on construction dust assessment advises that significance should be determined only after mitigation measures have been considered. On this basis, the significance is only reported for the residual effects.<br>T / D / ST | Good site practice and implementation of suitable mitigation measures identified within IAQM construction dust guidance for high-risk sites. | **Negligible (not significant)**<br>T / D / ST | N/A |
| **Operational Phase** | | | | | |
| Human receptors | Emissions of $NO_x$, $PM_{10}$, and $PM_{2.5}$ from construction traffic affecting local air quality at existing and future human health receptors. | **Negligible (not significant)**<br>P / D / LT | No mitigation proposed. | **Negligible (not significant)**<br>P / D / LT | N/A |

Key to table:

**P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable**

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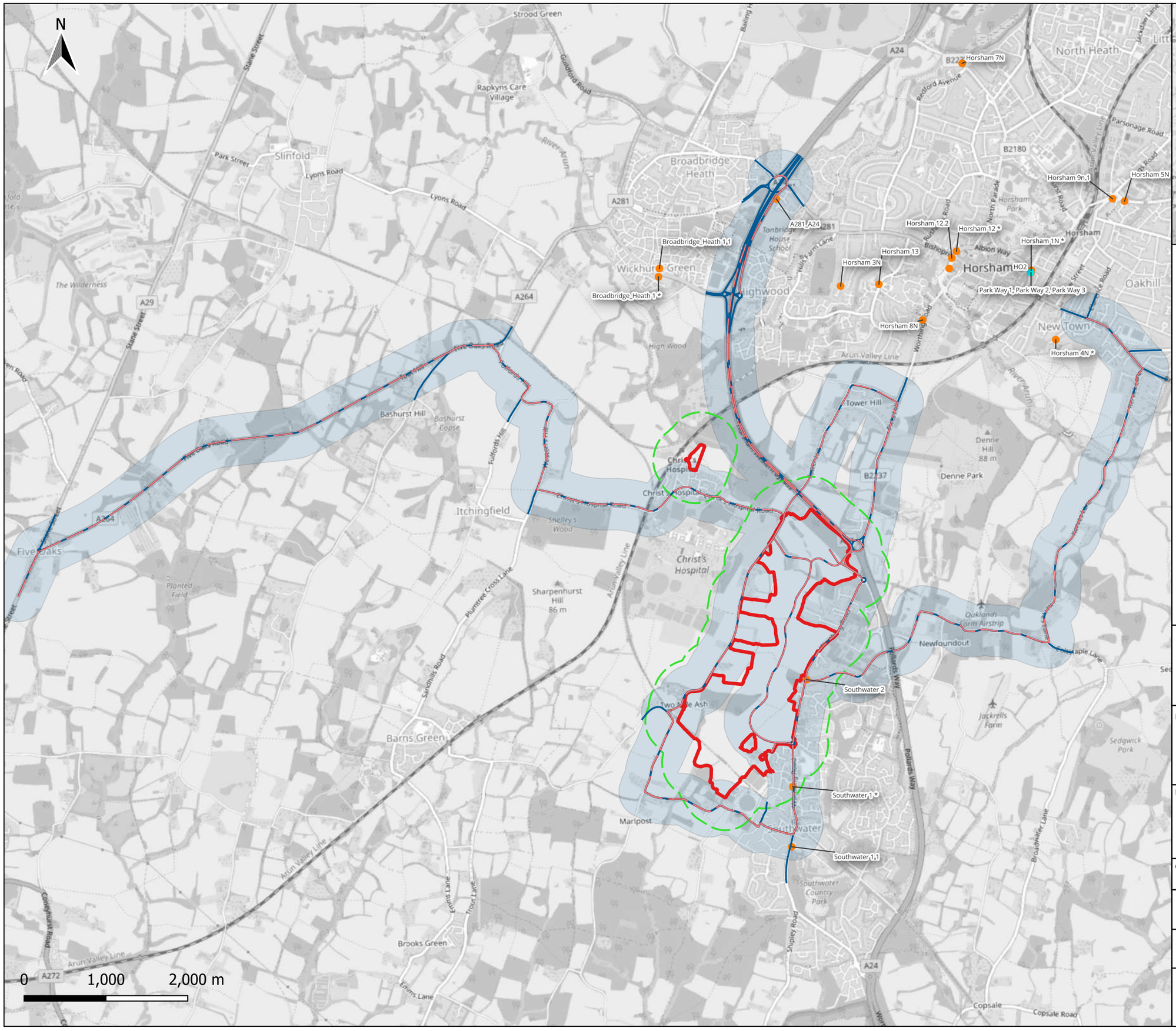

## KEY

- Site boundary
- Modelled road network
- ARN (links meeting screening threshold)
- Road traffic emissions study area
- Construction dust study area

**HDC Air Quality Monitoring Sites**

- Continuous monitoring station ($NO_2$, $PM_{10}$ and $PM_{2.5}$)
- $NO_2$ diffusion tube

Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © https://www.openstreetmap.org and contributors.

**PROJECT TITLE:**

Land North-West of Southwater

**DRAWING TITLE**

Figure 6-1: Air Quality Assessment Study Area

**CONFIDENTIALITY**

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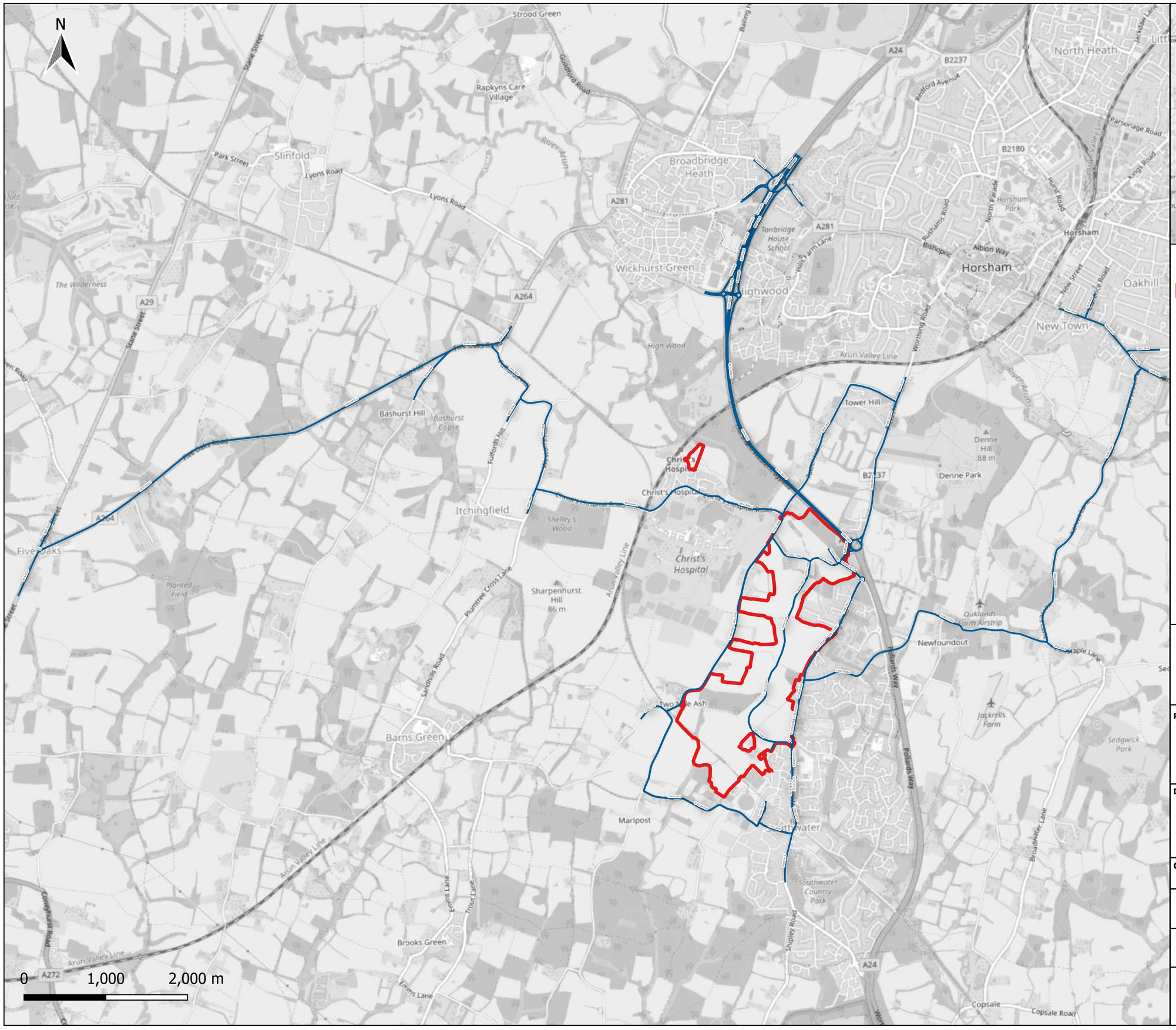
**DRAWING NUMBER**

XX



## KEY

- Site boundary
- Modelled road network

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**PROJECT TITLE:**

Land North-West of Southwater

**DRAWING TITLE**

Figure 6-2: Modelled Roads

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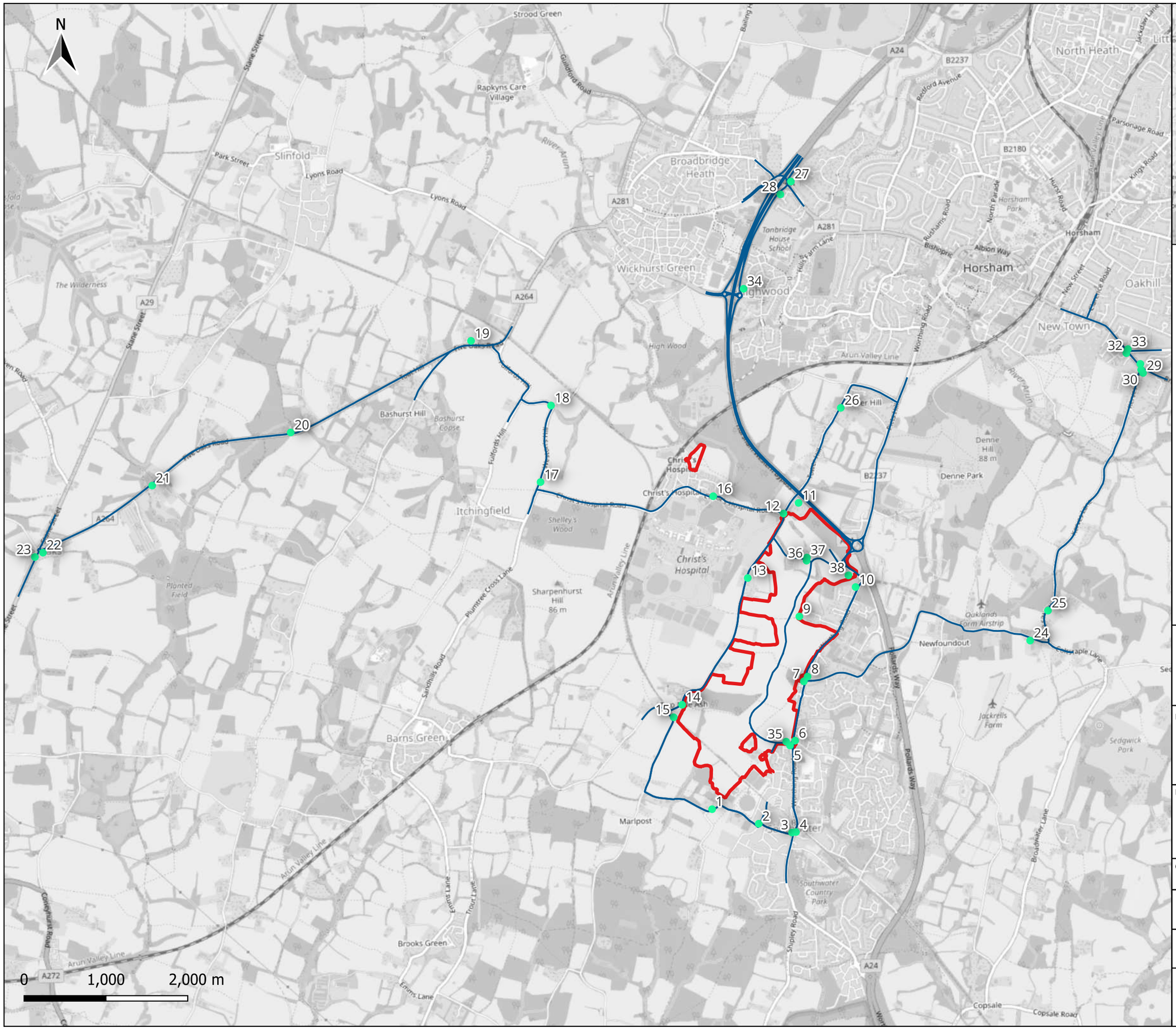

## KEY

- Site boundary
- Modelled road network
- Modelled human receptor

Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © https://www.openstreetmap.org and contributors.

**PROJECT TITLE:**

Land North-West of Southwater

**DRAWING TITLE**

Figure 6-3: Modelled Human Receptors

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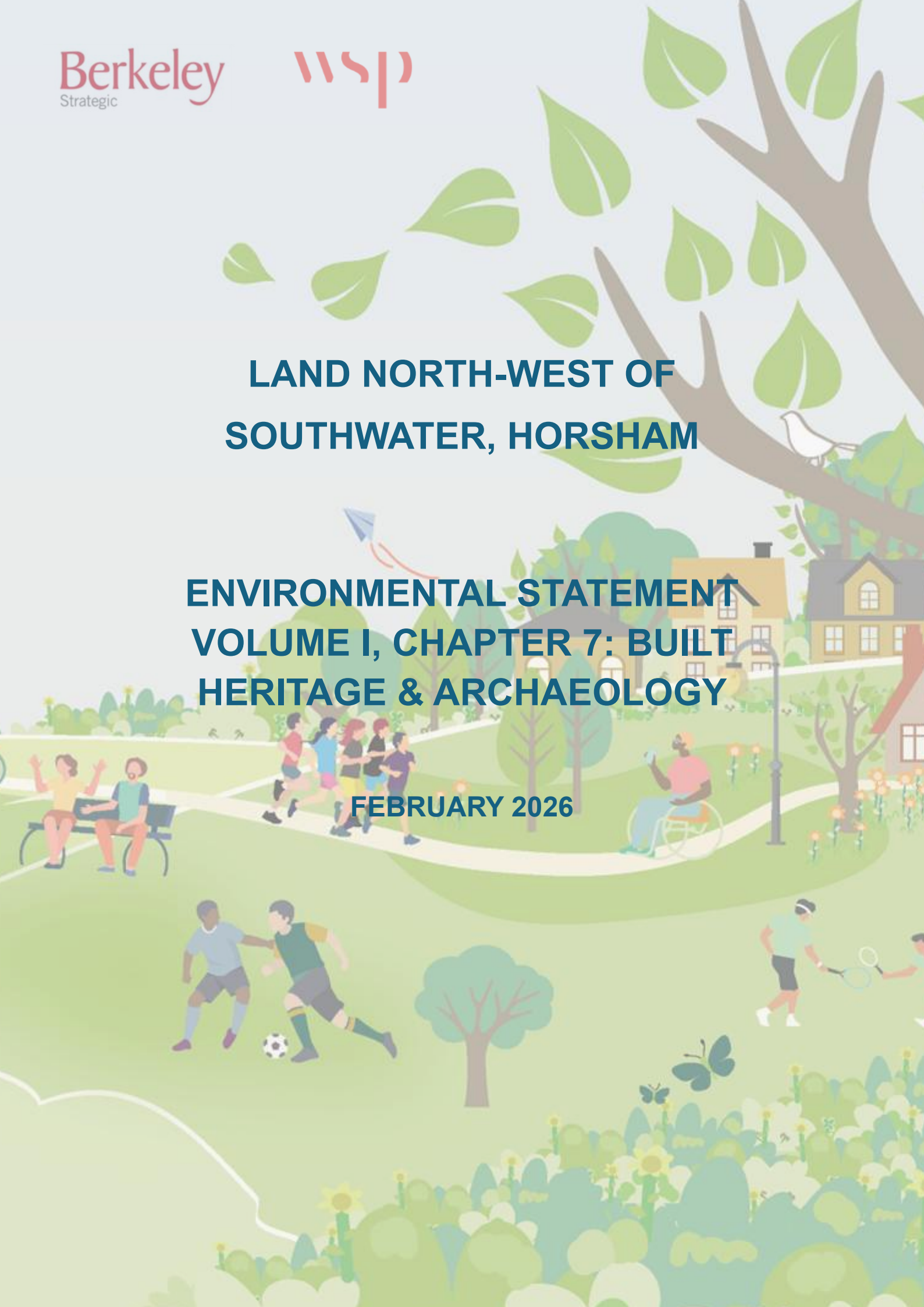
| 1:28,000 | 05/02/2026 | P00 |

**DRAWING NUMBER**

XX

WSP House
70 Chancery Lane
London
WC2A 1AF

**wsp.com**



# LAND NORTH-WEST OF SOUTHWATER, HORSHAM

# ENVIRONMENTAL STATEMENT VOLUME I, CHAPTER 7: BUILT HERITAGE & ARCHAEOLOGY

FEBRUARY 2026

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# 7. CULTURAL HERITAGE (BUILT HERITAGE AND ARCHAEOLOGY)

## 7.1. INTRODUCTION

7.1.1. This chapter reports the outcome of the assessment of likely significant effects arising from the Proposed Development upon the historic environment and cultural heritage, here defined as Built Heritage and Archaeology.

7.1.2. The assessment of Built Heritage and Archaeology has established that the following additional mitigation measures are required:

- A programme of Historic Building Recording (with analysis of fabric) is required on the Great House Farmhouse barns complex, to a level to be determined by the Council and their statutory advisors, prior to any change taking take place to these buildings;
- A Landscape and Environmental Management Plan (LEMP) is required for the Site to safeguard landscape features of heritage and archaeological value and significance;
- A Construction Environmental Management Plan (CEMP) would be implemented for the Site to reduce the effects of construction on built heritage assets, in accordance with an appropriately worded condition as agreed with Horsham District Council (HDC);
- A programme of Archaeological Evaluation works (followed by any archaeological mitigation) is required as the full nature of the buried archaeological resource and its significance remains uncertain. This could be secured by a condition on any future grant of planning consent;
- Any mitigation arising from the evaluative fieldwork will need to take place prior to development commencing, this could involve a range of archaeological strategies including excavation and recording (preservation by record) or preservation by design modification to retain archaeological assets on the Site (preservation in situ);
- The results of any archaeological fieldwork will need post-excavation assessment and analysis;
- The results of any archaeological fieldwork will need to be published in a suitably academic manner;
- The archive of any archaeological fieldwork and post-excavation stages will need to be deposited in a suitable archive repository;
- A programme of Public Engagement for knowledge sharing, interpretation and public benefit will be required;
- Continued exploration of opportunities for securing wider heritage benefits for the future conservation and management of heritage assets; and
- At the reserved matters stage, consider creative opportunities to enhance heritage assets and deliver public (heritage) benefit, as advised by Horsham District Council and Historic England in response to the Scoping Assessment (November 2025).

7.1.3. The following residual effects have been identified for built heritage assets during construction:

- Minor adverse (not significant) and minor beneficial (not significant) effects on Great House Farmhouse;
- Negligible adverse (not significant) and negligible beneficial (not significant) on Barns at Great House Farm; and
- Minor adverse (not significant) effects are anticipated at the following receptors:
  - Old Lodge to North East of Christ's Hospital, Grade II (NHLE reference: 1027033);
  - East Lodge and gateway, Christ's Hospital School, Grade II (NHLE reference: 1462525);
  - Sluetts, Christ's Hospital, Grade II (NHLE reference: 1027035);
  - Lanaways Farmhouse, Christ's Hospital, Grade II (NHLE reference: 1027036);
  - Lanaways Barn, Grade II (NHLE reference: 1119726);
  - Bodimans, Christ's Hospital, Grade II (NHLE reference: 1354171);
  - Sayers Farmhouse, Christ's Hospital, Grade II (NHLE reference: 1027037);
  - Barn to North West of Sayers Farmhouse, Christ's Hospital (NHLE reference: 1027038);
  - College Farmhouse, Grade II (NHLE reference: 1354174);
  - Pond Farmhouse, Grade II (NHLE reference: 1027041);
  - Holy Innocents Church, Grade II (NHLE reference:1259780);
  - Vicarage Cottage, Grade II (NHLE reference: 1027059);
  - Southwater House, Grade II (NHLE reference: 1409948);
  - Christ’s Hospital Station Goods Shed, Non-Designated Heritage Asset;
  - Station Cottages at Christ’s Hospital Station, Non-Designated Heritage Asset;
  - Dining Hall and Water Tower to North, School to South, Colonnaded Wings to East and West (Chapel in West Wing) Forming a Quadrangle, and 8 H Shaped Blocks (4 on each side of Dining Hall) at Christ's Hospital, Grade II* (NHLE reference: 1027034); and
  - Arts Centre and Music School at Christ’s Hospital, Grade II* (NHLE reference: 1247243).
- Negligible adverse effects are anticipated for the following built heritage receptors:
  - Pump Cottage, Worthing Road, Non-Designated Heritage Asset;
  - The Hen and Chicken Public House, Worthing Road, Non-Designated Heritage Asset; and
  - Ye Olde Barn, Worthing Road, Non-Designated Heritage Asset.

7.1.4. The following residual effects have been identified for built heritage assets during operation:

- There is likely to be a direct, permanent, long-term minor adverse (not significant) and a direct, permanent, long-term minor beneficial (not significant) residual effect on Great House Farmhouse (Grade II*). The removal of the un-sightly modern barn components is considered a heritage benefit, which opens views to the listed Farmhouse and to the historic elements of the barns complex;
- There is likely to be a direct, permanent, long-term minor adverse (not significant) and a direct, permanent, long-term minor beneficial (not significant) residual effect on the Barns at Great House Farm (non-designated heritage asset), by the removal of the modern barn components and improvements to the historic barns A to C, if their condition makes it possible to restore these fragile heritage assets;

- There is likely to be a direct, permanent, long-term minor adverse (not significant) residual effect on the following listed buildings:
  - Old Lodge to North East of Christ's Hospital (Grade II);
  - East Lodge and gateway, Christ's Hospital School (Grade II);
  - Sluetts, Christ's Hospital (Grade II);
  - Lanaways Farmhouse, Christ's Hospital (Grade II);
  - Lanaways Barn (Grade II);
  - Bodimans, Christ's Hospital (Grade II);
  - Sayers Farmhouse, Christ's Hospital (Grade II);
  - Barn to North West of Sayers Farmhouse, Christ's (Grade II);
  - College Farmhouse (Grade II);
  - Pond Farmhouse (Grade II);
  - Holy Innocents Church (Grade II);
  - Vicarage Cottage (Grade II); and
  - Southwater House (Grade II).
- There is likely to be a direct, permanent, long-term negligible adverse (not significant) residual effect on the following non-designated heritage assets:
  - Pump Cottage, Worthing Road;
  - The Hen and Chicken Public House, Worthing Road;
  - Ye Olde Barn, Worthing Road;
  - Christ's Hospital Station Goods Shed; and
  - Station Cottages at Christ's Hospital Station.
- There is likely to be no impact on the following listed buildings:
  - Dining Hall and Water Tower to North, School to South, Colonnaded Wings to East and West (Chapel in West Wing) Forming a Quadrangle, and eight H Shaped Blocks (four on each side of Dining Hall) at Christ's Hospital, Grade II*; and
  - Arts Centre and Music School at Christ's Hospital, Grade II*.

**ARCHAEOLOGY**

7.1.5. The following residual effects have been identified for archaeological heritage assets during construction:

- The sensitivity of archaeological finds and features is identified as low and can be mitigated through standard planning controls, and although preservation by record is not a replacement for preservation in situ, given that archaeological mitigation is inherently a destructive process, the magnitude of change, following mitigation, will be reduced to low. Therefore, there is likely to be a direct, permanent, long-term negligible adverse effect on archaeological finds and features (not significant) following the implementation of mitigation measures; and

- The sensitivity of the medieval manorial boundary, surviving historic hedgerows / shaws, relict medieval landscape and historic routeways is low, and the magnitude of change following mitigation, is low. Therefore, there is likely to be a direct, permanent, long-term negligible adverse residual effect on the medieval manorial boundary, surviving historic hedgerows / shaws, relict medieval landscape and historic routeways and their setting (not significant) following the implementation of mitigation measures inherent to the Proposed Development (see V**olume 1, Chapter 5: Approach to EIA, Table 5.2 – Matrix of Classifying Effects**).

7.1.6. During operation, no effects are anticipated on archaeological receptors.

7.1.7. The remainder of this chapter describes the assessment methodology and the baseline conditions relevant to the assessment, which have been used to reach these conclusions, as well as a summary of the likely significant effects leading to the additional mitigation measures required to avoid, prevent, reduce or, if possible, offset any likely significant adverse effects, and the likely residual effects and any required monitoring after these measures have been employed. Opportunities for environmental enhancement, where such opportunities exist, are also discussed.

## 7.2. CONSULTATION, SCOPE, METHODOLOGY AND SIGNIFICANCE CRITERIA

### CONSULTATION UNDERTAKEN TO DATE

7.2.1. This chapter and its supporting Technical Assessments have been compiled following on-going consultation with Horsham District Council and their statutory consultees, Historic England for Grade II* buildings and Surrey County Council (SCC) for Archaeological matters.

7.2.2. The Proposed Development design has taken the advice provided by the Council and Historic England for Built Heritage Interest and has addressed issues raised since 2022. Additional consultation and Site visits have since been undertaken in 2025, which are summarised in **Table 7-1** below. Following further consultation, Historic England issued their report in the form of a pre-application advice letter dated 8th December 2025. The advice of this letter has been followed for the Proposed Development and this EIA. The letter confirmed that the changes to the Proposed Development, including creating a buffer around the farmhouse and moving the main spine road further away has reduced the level of harm from high (based on the 2022 ES) to less than substantial (in National Planning Policy Framework [NPPF] terms) **(Ref 7.1)**.

7.2.3. The advice letter concludes:

> *'We consider your proposals have now reached a stage where they have addressed the most harmful elements of the previous scheme. When an application for planning permission is submitted, it will be for the Local Planning Authority to weigh any remaining harm against the public benefits, including any heritage benefits.'*

7.2.4. This means that it remains with the Council to determine whether the public benefits and any heritage benefits that the scheme can afford are sufficient in the planning balance to offset the harm identified.

7.2.5. The design has additionally taken the advice provided by the Council and their Archaeological Advisor (SCC) for Archaeological Interest in 2022 and 2025. Advice from SCC in response to the November 2025 EIA Scoping Report advised that Archaeology should be a topic for the EIA **(Ref 7.2)**. The reasons for this were that the Site is large, and the majority of the area has not been subject to previous archaeological investigation although the southern part of the Main Site is within an Archaeological Notification Area (ANA DWS8545). Several phases of geophysical survey of the Site have already taken place, including drone photogrammetry work (2011, 2022 x 2), which provides indicative evidence of likely archaeological significance across the whole Site. The Advisor notes that the true nature of the archaeological resource and its significance still remains to be determined by fieldwork. Further archaeological assessment and investigations will be required and could be secured by conditions on any future grant of planning consent, as advised by the Council's Archaeological Advisor for the much larger proposal in 2022 and as indicated in the informal consultation meeting between RPS TT and the Council's current Archaeological Advisor at SCC on 19th September 2025. For archaeological interest a continuance of the previous advice is anticipated for the OPA.

**Table 7-1 - Summary of the Consultation Activities Undertaken**

| Body / Organisation | Individual / Stat Body / Organisation | Meeting Dates and Other Forms of Consultation | Summary of Outcome of Discussions |
|---|---|---|---|
| Horsham District Council | Seán Rix – Senior Conservation Officer Horsham District Council | Pre-application Meetings during 2025 (21st August 2025, 24th October 2025) | Discussion, advice and guidance on the evolving Masterplan |
| Historic England | Alma Howell, Historic England's Inspector of Historic Buildings and Areas - Development Advice (East and West Sussex). | Site meeting 13th November 2025. Consultation meeting Teams 1st December 2025. Correspondence between Berkeley and Historic England during 2025. | Pre-application HE advice letter dated 8th December 2025. The letter identifies heritage harm to be within the lower levels ("below the mid-range") of 'less than substantial harm'. Advises the Council to determine whether the public benefits afforded by the scheme provide sufficient balance to the harm identified. |
| Surrey County Council (SCC) | Nicholas Truckle – Archaeological Officer to Horsham District Council. | Conversation on Microsoft Teams 19th September 2025.<br>Submission of survey reports. | Discussion and conversation that previous advice from 2022 is likely to be carried forward but updated reports and survey data needs to be reviewed before this can be confirmed. Advised that a new HER search should take place (see row below). |

| Body / Organisation | Individual / Stat Body / Organisation | Meeting Dates and Other Forms of Consultation | Summary of Outcome of Discussions |
|---|---|---|---|
| West Sussex Historic Environment Record (WSHER) | Melanie Dickenson - Assistant Historic Environment Record Officer, Environment & Heritage, Planning Services. West Sussex County Council, Ground Floor, Northleigh, County Hall, Chichester, PO19 1QT | 11th December 2025. Purchase by RPS TT under licence of WSHER for the Site and 1km Buffer search centred around TQ 15488 27626, Southwater. | Receipt of WSCC HER Search Reference Number: **202526-091.**<br>The results of the search are set out in **Volume 2, Appendix 7.3: Archaeological and Historic Landscape Desk-Based Assessment Land North-West of Southwater, Horsham** . |
| Berkeley Project Team | Various Berkeley Team multi-disciplinary subject matter experts | Workshops in 2025 between the Berkeley Teams for Cultural Heritage, Landscape, Planning and Ecology<br>As required, during late Summer and Winter of 2025 | Collaborative approach to Heritage, Archaeology, Landscape and Ecology |

## SCOPE OF THE ASSESSMENT

7.2.6. The scope of this assessment has been established through an ongoing scoping process. Further information can be found in **Volume 1, Chapter 5: Approach to EIA**.

7.2.7. This section provides an update to the scope of the assessment and amends the approach and the evidence base for scoping out receptors following further iterative assessment.

7.2.8. The scope as presented at the Scoping stage has subsequently changed for both Built Heritage and Archaeology. The principal changes are:

- Further design change has ameliorated harm to built heritage assets, particularly the impacts to the setting of Great House Farmhouse. This has taken place in consultation with Historic England, and their pre-application advice dated 8th December 2025; and
- Archaeology is now scoped into the EIA, following advice returned by the Council's Archaeological Advisor at Surrey County Council on the Scoping Report.

7.2.9. Positive design changes include:

- Scaling back the quantum of development by one third; from 1,500 to 1,000 dwellings. This is beneficial as it limits the quantity of built form introduced into the rural greenfield setting, retaining openness and views across the landscape;

- Removing all development to the south and east of Great House Farmhouse and its agricultural complex and creating a green buffer and setting development back to the north and west. This is beneficial as it removes any sense of 'encirclement' of Great House Farmhouse, leaves an open, functional, and visual relationship with the landscape to the south and east that allows appreciation of the dispersed nature of the wider Wealden settlement pattern (including areas further away such as the hamlet of Bonfire Hill). This is also beneficial as it retains the rural setting and opens views into and out of Great House Farmhouse;
- Removing development on the western edge of the Site within the setting of Christ's Hospital and heritage assets to the west also reducing potential heritage harm to views and the setting of Christ's Hospital. This is beneficial as development is now set much further away from these heritage assets, allowing their setting to be preserved;
- Recognising the contribution of non-designated industrial heritage assets on the Site against its rural setting. The benefits of the later heritage time-depth of the Site are also celebrated and not just the Site's early character and medieval and post-medieval landscape. The industrial heritage of the Site is also protected in respect to the Downs Link and the rail, road and later industrial non-designated heritage assets;
- A multi-disciplinary team review and collaborative working with the Council to consider the impact of wider setting and kinetic views matters generally, affecting the current rural tranquillity and sense of place of Great House Farmhouse and its garden and barns and the PROWs. This process has been extremely beneficial and has involved a range of subject matter experts, who working together have designed positive outcomes for the design;
- Assessment of other impacts to setting, particularly noise (for example, background noise background noise at certain times of the day and evening) and the light pollution caused by the necessity of flood or street lighting, traffic and the perception of activity and movement beyond any visual screens, whilst retaining landscape and wayfinding features such as the Saxon manorial boundary between Marlpost to the west and Crockhurst to the east, as well as 95% of the Site's hedgerows, whilst also retaining trees and ancient woodland. The benefit of this is that the design is landscape- and heritage-led which enables a continuance of the rural character of the Site and a sensitivity to and celebration of its distinct and unique 'sense of place'; and
- Re-design of the road system to have a village track feel by Great House Farmhouse with only pedestrian and cycle traffic. The benefit of this is that the rural isolation and tranquillity of Great House Farmhouse and other designated heritage assets is not entirely lost. The tiered hierarchy of roads and lanes continues a sense of a rural agricultural setting and is more private and tranquil by the absence of vehicular traffic close to the Grade II*listed building.

## BUILT HERITAGE AND ARCHAEOLOGY RECEPTORS SCOPED OUT OF THE ASSESSMENT

7.2.10. The receptors shown in **Table 7-2** are not considered to experience likely significant effects as a result of the Proposed Development and have therefore not been considered within this assessment:

**Table 7-2 - Receptors Scoped Out of the Assessment**

| Receptors Scoped Out | Justification |
|---|---|
| The Cock Inn, Grade II (NHLE reference: 1027042) | Enclosed by existing modern development, the Site does not contribute to the listed building's setting or sensitivity, the Proposed Development will not be appreciable within the listed building's setting |
| Jasmine Cottage Wheelwright House, Grade II (NHLE reference: 1193754) | Enclosed by existing modern development, the Site does not contribute to the listed building's setting or sensitivity, the Proposed Development will not be appreciable within the listed building's setting |
| Blake's Farmhouse, Grade II (NHLE reference: 1286074) | Enclosed by existing modern development, the Site does not contribute to the listed building's setting or sensitivity, the Proposed Development will not be appreciable within the listed building's setting |
| Wellers Farm, Grade II (NHLE reference: 1026822) | Enclosed by existing modern development, the Site does not contribute to the listed building's setting or sensitivity, the Proposed Development will not be appreciable within the listed building's setting |
| Nye's Cottage, Grade II (NHLE reference: 1027073) | Enclosed by existing modern development, the Site does not contribute to listed building's setting or sensitivity, the Proposed Development will not be appreciable within the listed building's setting |
| Griggs, Grade II (NHLE reference: 1027032) | Distance from the Site Boundary and intervening landscape ensures that the Proposed Development will not be appreciable within the listed building's setting |
| Lawson's Farmhouse, Grade II (NHLE reference: 119369) | Distance from the Site Boundary and intervening landscape ensures that the Proposed Development will not be appreciable within the listed building's setting |
| Swains, Grade II (NHLE reference: 1027064) | Distance from the Site Boundary and intervening landscape ensures that the Proposed Development will not be appreciable within the listed building's setting |
| Marlpost Farmhouse, Grade II (NHLE reference: 1193394) | Distance from the Site Boundary and intervening landscape ensures that the Proposed Development will not be appreciable within the listed building's setting |
| Barn to North West of Marlpost Farmhouse, Grade II (NHLE reference: 1354146) | Distance from the Site Boundary and intervening landscape ensures that the Proposed Development will not be appreciable within the listed building's setting |
| Bax Castle Public House, Two Mile Ash Road, Parish Heritage Asset | Location of green open space within adjacent areas of the Site. Intervening woodland ensures that the wider Proposed Development will not be appreciable within the building's setting |
| Calcot, Parish Heritage Asset | Enclosed by existing modern development, the Site does not contribute to listed building's setting or sensitivity, the Proposed Development will not be appreciable within the building's setting |

| Receptors Scoped Out | Justification |
|---|---|
| Old School House, Parish Heritage Asset | Enclosed by existing modern development, the Site does not contribute to listed building's setting or sensitivity, the Proposed Development will not be appreciable within the building's setting |
| Old Post Office, Parish Heritage Asset | Enclosed by existing modern development, the Site does not contribute to listed building's setting or sensitivity, the Proposed Development will not be appreciable within the building's setting |
| Sedgwick Castle moated site Scheduled Monument | There would be no effects arising to its extended setting or sensitivity by the Proposed Development |
| Moated site and fishponds at Chesworth House | There would be no effects arising to its extended setting or sensitivity by the Proposed Development |
| Sedgwick Park RPG | There would be no effects arising to its extended setting or sensitivity by the Proposed Development |

7.2.11. There are no archaeological receptors scoped out of the assessment.

## RECEPTORS SCOPED INTO THE ASSESSMENT

### Construction Phase

#### Built Heritage

7.2.12. The following built heritage receptors are considered to have the potential to experience likely significant effects during construction or prior to construction commencing of the Proposed Development and have therefore been considered within this assessment.

- Great House Farmhouse, Grade II* (List entry number: 1286023); and
- Barns at Great House Farm, Non-Designated Heritage Assets.

7.2.13. It was advised within the Scoping Opinion Responses **(Volume 2, Appendix 5.2: EIA Scoping Opinion Responses)** from the HDC Conservation Officer, that development activities (such as construction, servicing, maintenance, and associated traffic) may have potential impacts upon perceptions, understanding and appreciation of the heritage assets in the area, and that the assessment should consider the likelihood of alterations to drainage and groundwater patterns that could lead to in-situ decomposition or destruction of below ground archaeological remains and deposits, as well as subsidence of buildings and monuments.

7.2.14. The following receptors are considered to have the potential to experience likely non-significant effects during construction of the Proposed Development and have also been considered within this assessment:

- Old Lodge to North East of Christ's Hospital, Grade II (NHLE reference: 1027033)
- East Lodge and gateway, Christ's Hospital School, Grade II (NHLE reference: 1462525)
- Sluetts, Christ's Hospital, Grade II (NHLE reference: 1027035);
- Lanaways Farmhouse, Christ's Hospital, Grade II (NHLE reference: 1027036);
- Lanaways Barn, Grade II (NHLE reference: 1119726);
- Bodimans, Christ's Hospital, Grade II (NHLE reference: 1354171);
- Sayers Farmhouse, Christ's Hospital, Grade II (NHLE reference: 1027037);

- Barn to North West of Sayers Farmhouse, Christ's Hospital (NHLE reference: 1027038);
- College Farmhouse, Grade II (NHLE reference: 1354174);
- Pond Farmhouse, Grade II (NHLE reference: 1027041);
- Holy Innocents Church, Grade II (NHLE reference:1259780);
- Vicarage Cottage, Grade II (NHLE reference: 1027059);
- Southwater House, Grade II (NHLE reference: 1409948);
- East Lodge and gateway, Christ's Hospital School, Grade II (NHLE reference: 1462525);
- Dining Hall and Water Tower to North, School to South, Colonnaded Wings to East and West (Chapel in West Wing) Forming a Quadrangle, and 8 H Shaped Blocks (4 on each side of Dining Hall) at Christ's Hospital, Grade II* (NHLE reference: 1027034);
- Arts Centre and Music School at Christ's Hospital, Grade II* (NHLE reference: 1247243);
- Pump Cottage, Worthing Road, Non-Designated Heritage Asset;
- The Hen and Chicken Public House, Worthing Road, Non-Designated Heritage Asset;
- Ye Olde Barn, Worthing Road, Non-Designated Heritage Asset;
- Christ's Hospital Station Goods Shed, Non-Designated Heritage Asset; and
- Station Cottages at Christ's Hospital Station, Non-Designated Heritage Asset.

### Archaeology

7.2.15. The following archaeological receptors are considered to have the potential to experience likely significant archaeological effects during construction or prior to construction commencing of the Proposed Development and have therefore been considered within this assessment.

- Non-designated archaeological finds and features. Most archaeological fieldwork mitigation will have been managed and completed prior to the construction phase commencing;
- The Historic Landscape Character of the Site and its Setting;
- The medieval manorial boundary;
- Surviving historic hedgerows / shaws;
- The relict medieval landscape; and
- Historic routeways.

7.2.16. All other archaeological effects can be mitigated by design and by the results of non-intrusive archaeological survey and fieldwork; in accordance with current standards and guidance and archaeological practice in the UK, via standard planning control and delivered by a programme of archaeological fieldwork evaluation, mitigation, recording, publication, archive deposition, the delivery of public benefits and the dissemination of knowledge.

**Operation Phase**

### Built Heritage

7.2.17. The following receptors are considered to have the potential to experience likely significant built heritage effects during operation of the Proposed Development and have therefore been considered within this assessment:

- Great House Farmhouse, Grade II* (List entry number: 1286023);
- Barns at Great House Farm, Non-Designated Heritage Asset;
- The results of Historic Building Recording work on the Barns adjacent to Great House Farmhouse; and
- Historic Landscape Character of the Site and its Setting.

7.2.18. The following receptors are considered to have the potential to experience likely non-significant effects on Built Heritage Assets during operation of the Proposed Development and have therefore been considered within this assessment:

- Old Lodge to North East of Christ's Hospital, Grade II (NHLE reference: 1027033);
- East Lodge and gateway, Christ's Hospital School, Grade II (NHLE reference: 1462525);
- Sluetts, Christ's Hospital, Grade II (NHLE reference: 1027035);
- Lanaways Farmhouse, Christ's Hospital, Grade II (NHLE reference: 1027036);
- Lanaways Barn, Grade II (NHLE reference: 1119726);
- Bodimans, Christ's Hospital, Grade II (NHLE reference: 1354171);
- Sayers Farmhouse, Christ's Hospital, Grade II (NHLE reference: 1027037);
- Barn to North West of Sayers Farmhouse, Christ's Hospital (NHLE reference: 1027038);
- College Farmhouse, Grade II (NHLE reference: 1354174);
- Pond Farmhouse, Grade II (NHLE reference: 1027041);
- Pump Cottage, Worthing Road, Non-Designated Heritage Asset;
- The Hen and Chicken Public House, Worthing Road, Non-Designated Heritage Asset;
- Ye Olde Barn, Worthing Road, Non-Designated Heritage Asset;
- Holy Innocents Church, Grade II (NHLE reference:1259780);
- Vicarage Cottage, Grade II (NHLE reference: 1027059);
- Southwater House, Grade II (NHLE reference: 1409948);
- Christ's Hospital Station Goods Shed, Non-Designated Heritage Asset;
- Station Cottages at Christ's Hospital Station, Non-Designated Heritage Asset;
- Dining Hall and Water Tower to North, School to South, Colonnaded Wings to East and West (Chapel in West Wing) Forming a Quadrangle, and 8 H Shaped Blocks (4 on each side of Dining Hall) at Christ's Hospital, Grade II* (NHLE reference: 1027034); and
- Arts Centre and Music School at Christ's Hospital, Grade II* (NHLE reference: 1247243).

### Archaeology

7.2.19. The following archaeological receptors are considered during operation of the Proposed Development and have therefore been added to this assessment:

- Non-designated archaeological assets;
- The historic landscape character of the Site and its setting;
- The medieval manorial boundary;
- Surviving historic hedgerows / shaws;
- Relict medieval landscape; and
- Historic routeways.

## EXTENT OF THE STUDY AREA

### Built Heritage

7.2.20. For the purposes of this Built Heritage assessment, a 500m search area around the Site Boundary has been applied within which built heritage assets (designated and non-designated heritage assets (including parish heritage assets)) were identified for assessment. Despite lying outside of the study area, two Grade II* listed buildings at Christ's Hospital School were additionally included as part of a comprehensive assessment. A map of built heritage assets included within the study area are shown as **Figure 7.1: Built Heritage Assets Plot – 500m search radius.**

### Archaeology

7.2.21. A 1km buffer from the Site Boundary has been used as a study area in order to assess the likely effects of the Proposed Development on the known and potential archaeological resource and historic landscape. This is an industry-standard study area for assessing the Proposed Development and provides a proportionate approach to assessment and also forms the basis of the requested Historic Environment Record data search from West Sussex County Council (WSCC HER Reference Number: 202526-091, date of purchase 11th December 2025) **(Ref 7.3)**. A wider 2km buffer has been applied to capture any designated archaeological and historic landscape sites, from which there may be views of the Proposed Development and therefore potential impact to the settings of these assets. These study areas are considered to be a proportionate approach to the assessment, based upon an understanding of the Site, local topography, existing urban development, the sensitivity of identified heritage assets and the nature of the Proposed Development.

7.2.22. Archaeological heritage assets included within the study area are shown as **Figure 7.2: HER Plot 1km search area Archaeology** (data from West Sussex HER).

## METHOD OF BASELINE DATA COLLATION

### Desk study

7.2.23. Archaeological sites and monuments and other heritage assets are recorded in national and / or local historic environment databases, in this instance the National Record of the Historic Environment (NRHE) held by Historic England, and the West Sussex Historic Environment Record (HER), held by West Sussex County Council. Listed buildings are recorded as part of the National Heritage List for England (NHLE), compiled by Historic England **(Ref 7.4)**. Parish Heritage Assets are compiled locally by the local planning authority. Finds made by metal detectorists are reported through the Portable Antiquities Scheme (PAS) **(Ref 7.5)**. These data sources have been used in the preparation of this chapter and the three Technical Appendices to inform the approach to mitigation for the Site.

7.2.24. The three Technical Appendices are as follows:

- **Volume 2, Appendix 7.1: RPS TT, January 2026a, Built Heritage Assessment Land North-West of Southwater, Horsham;**
- **Volume 2, Appendix 7.2: RPS TT, January 2026b, Historic Barns Assessment, Great House Farmhouse, Southwater Land North-West of Southwater, Horsham (Setting Assessment);** and
- **Volume 2, Appendix 7.3: RPS TT, January 2026c, Archaeological and Historic Landscape Desk-Based Assessment Land North-West of Southwater, Horsham.**

7.2.25. In accordance with national and local planning policy, this assessment considers both designated and non-designated heritage assets within the study area, including:

- World Heritage Sites;
- Scheduled Monuments;
- Historic Battlefield;
- Registered Parks / Gardens;
- Listed Buildings;
- Conservation Areas;

- Locally Listed Buildings (including Parish Heritage Assets identified through the Southwater Neighbourhood Plan 2021 **(Ref 7.6)**;
- The Historic Landscape; and
- Archaeological finds and features.

7.2.26. In additional to on-site assessment (discussed further below), the following sources have been consulted during the compilation of the baseline information:

- British Library **(Ref 7.7)**;
- West Sussex HER **(Ref 7.3)**;
- West Sussex Record Office **(Ref 7.8)**;
- Historic England National Heritage List **(Ref 7.9)**;
- The National Archives **(Ref 7.10)**; and
- Other online sources e.g. historic maps, local history websites, LiDAR data.

7.2.27. The results of this primary and secondary research are set out in the technical appendices. An Executive Summary gives an overview of the research conclusions at the front of each document. The sources of the data are also detailed within the reports and conform with industry standards and guidance for reports of this nature (see 7.2.26 above).

### SITE VISIT AND SURVEYS

7.2.28. A number of Site visits have taken place, the most recent was on 13th November 2025.

7.2.29. The technical report that forms **Volume 2, Appendix 7.3: Archaeological and Historic Landscape Desk-Based Assessment** contains three further Appendices numbered 1 to 3 and these detail the relevant non-intrusive fieldwork surveys that have been undertaken on the Site that inform this assessment and archaeological significance generally. The results of these complex reports are summarised in the Executive Summary at the front of each document. The sources of the data are also detailed within the reports and conform with industry standards for reports of this nature.

- **Volume 2, Appendix 7.3: Archaeological and Historic Landscape Desk-Based Assessment, Appendix 1: Geophysical Survey Report Land North-West of Southwater,** Stratascan 2011.
- **Volume 2, Appendix 7.3: Archaeological and Historic Landscape Desk-Based Assessment, Appendix 2: Geophysical Survey Report Land North-West of Southwater,** Wessex Archaeology 2022.
- **Volume 2, Appendix 7.3: Archaeological and Historic Landscape Desk-Based Assessment, Appendix 3: Drone (Photogrammetry and Multi-spectral) Survey Report Land North-West of Southwater,** SUMO 2022.

### ASSESSMENT METHODOLOGY

7.2.30. The technical reports are illustrated throughout with maps, plans and photographic plates. Two figures **(Figure 1: Built Heritage Assets Plot – 500m search radius and Figure 2: HER Plot 1km search area Archaeology (data from West Sussex HER)** also support this chapter.

7.2.31. The three technical reports should be reviewed for further detail. The work complies with industry current standards and guidance as set out by the Chartered Institute for Archaeologists (CIfA). RPS TT is a Registered Organisation with CIfA, Gillian King is a full Member of CIfA. Gillian King is a co-author on the current industry guidance issued by CIRIA in 2021 '*C799: Archaeology in Construction: Good Practice Guide.*' **(Ref 7.11).**

7.2.32. A summary of the key steps for the Cultural Heritage Assessment methodology is outlined below:

7.2.33. An examination of evidence on the West Sussex Historic Environment Record (WSHER) recorded within a 500m study area for Built Heritage and 1km study area for Archaeology around the extent of the Site Boundary, including a Gazetteer of WSHER entries;

- An assessment of relevant published and unpublished sources and a review Research Agendas and Frameworks;
- Comprehensive Site walkover surveys most recently on 13th November 2025. Including the collection of a photographic archive of plates;
- A review of available aerial photographs;
- An analysis of LiDAR data has also been undertaken to identify any additional unrecorded archaeological / historic landscape features;
- An analysis of geophysical surveys of the Site in 2011 and 2022 and drone (photogrammetry and multi-spectral) survey in 2022;
- A historic map regression exercise which considers the development of the Site from the seventeenth century until the present day, and any analysis of any surviving historic hedgerows and other features recorded on relevant historic maps using GIS (Geographical Information Systems) and ground-truthed in the field;
- An analysis of Historic Landscape Characterisation datasets provided by the WSHER; and
- A review of all current legislation, policy and guidance as detailed in the Technical Documents, see **Volume 2, Appendix 7.1: Built Heritage Assessment, Appendix 5**.

## SENSITIVITY OF RECEPTOR

7.2.34. The NPPF refers to the consideration of the ‘significance’ of heritage assets. However, in the context of EIA, the term ‘significance’ relates to the established scale of effect as a result of the combination of the sensitivity of the asset and the magnitude of potential impact on that asset. To avoid confusion, the term ‘sensitivity’, rather than significance, has been used within the chapter to describe the importance or value of an asset (whereas the term ‘significance’ is used within the Built Heritage Baseline Assessment, in line with policy and guidance pertaining to the historic built environment).

7.2.35. There are no national government guidelines for evaluating the sensitivity of different types of heritage asset. For archaeological remains, the Department for Digital, Culture, Media and Sport (DCMS) has adopted a series of principal criteria for use in the determination of national importance when scheduling ancient monuments (**Ref. 7.12**). The criteria include period, rarity, documentation, group value, survival / condition, fragility / vulnerability, diversity and potential and can be used as a basis for the assessment of the sensitivity of heritage sites and remains. However, the document also states that these principles “should not be considered definitive, but as indicators that contribute to a broader judgment based on individual circumstances”.

7.2.36. Listed buildings are nationally designated by the Secretary of State (based on recommendations from Historic England) for their special architectural or historic interest and are identified via the National Heritage List for England **(Ref 7.13)**. Parish Heritage Assets are designated locally, based upon local criteria which identify built heritage assets which do not meet the requirements for statutory designation, but which retain a local degree of interest. The NPPF and the Planning Practice Guidance **(Ref 7.1)** introduce criteria for the assessment of the sensitivity of heritage assets, and these have been factored into this assessment.

7.2.37. The criteria detailed within **Table 7-3** below will be used for assessing receptor sensitivity:

**Table 7-3 - Sensitivity of Cultural Heritage Assets**

| Receptor Sensitivity | Criteria for Defining Level |
|---|---|
| High | ▪ Heritage assets of national sensitivity. Scheduled Monuments, Listed Buildings (Grade I, II*, II), Registered Historic Parks and Gardens (Grade I, II*, II), Protected Wrecks, Historic Battlefields, Protected Military Remains (POMRA 1986).<br>▪ Also includes unscheduled sites and monuments of schedulable quality and / or sensitivity discovered through the course of evaluation or mitigation.<br>▪ Designated and non-designated historic landscapes of outstanding interest, or high quality and sensitivity and of demonstrable national value. Well-preserved historic landscapes, exhibiting considerable coherence, time-depth or other critical factors.<br>▪ Palaeogeographic features with a demonstrable high potential to include artefactual and / or palaeoenvironmental material, possibly as part of a prehistoric site or landscape. |
| Medium | ▪ Heritage assets of regional sensitivity. Conservation Areas, Historic townscapes and landscapes with reasonable coherence, time-depth and other critical factor(s).<br>▪ Unlisted assets that can be shown to have exceptional qualities or historic association.<br>▪ Designated special historic landscapes. Non-designated historic landscapes that would justify special historic landscape designation, landscapes of regional value. Averagely well-preserved historic landscapes with reasonable coherence, time-depth or other critical factors.<br>▪ Prehistoric deposits with moderate potential to contribute to an understanding of the palaeoenvironment.<br>▪ Designated or non-designated assets (including historic landscape) that contribute to regional research objectives and frameworks. |
| Low | ▪ Locally Listed Buildings (including Parish Heritage Assets).<br>▪ Non-designated assets (including historic landscape) of local sensitivity.<br>▪ Assets compromised by poor preservation and / or poor survival of contextual associations.<br>▪ Assets of limited sensitivity, but with potential to contribute to local research objectives. |
| Negligible | ▪ Assets with very little or no surviving archaeological interest due to poor preservation or survival. Landscapes with little or no significant historical interest. |

## MAGNITUDE OF IMPACT

7.2.38. The determination of magnitude of impact is based on the level of change that the Proposed Development may have on cultural heritage receptors. The magnitude of impact is assessed by taking into consideration the extent / proportion of the asset affected, its type, its survival / condition, its fragility / vulnerability and its potential amenity value. It also takes into account the nature of past development or management effects.

7.2.39. The magnitude of impact is assessed without regard to the sensitivity of the asset. In terms of the judgment of the magnitude of impact this is based on the principle that preservation of the asset and its setting is preferred, and that total physical loss of the asset is the least preferred. Determining the magnitude of impact is based on an understanding of how, and to what extent, a development would impact on the buried archaeological assets and the setting of built heritage assets. The magnitude of impact is rated as High, Medium, Low, and Negligible, for some assets, these have been rated as No Impact.

7.2.40. The survival of archaeological remains is often uncertain without archaeological evaluation and in these circumstances the magnitude of impact can only be estimated or stated as unknown. The magnitude of change resulting from the impact may vary depending on the nature of past development or management effects. These effects could include temporary or permanent land take or excavation, ground disturbance and compaction.

7.2.41. Development impacts can be characterised as to whether they would be:

- Direct or Indirect;
- Beneficial or Adverse;
- Short, Medium or Long-Term;
- Reversible or Irreversible; and / or
- Cumulative.

7.2.42. Direct impacts are those impacts which arise directly from the Proposed Development. These effects may arise from physical impacts to heritage assets or through non-physical impacts via changes to their settings. Indirect effects comprise effects which are not a direct result of the Proposed Development. These may be effects arising from a complex pathway.

7.2.43. The following criteria outlined in **Table 7-4** below have been used for assessing magnitude of impact to receptors.

**Table 7-4 - Magnitude of Impact**

| Magnitude of Impact | Criteria for Defining Level |
|---|---|
| High | ▪ Complete destruction or a fundamental, substantial change of an asset or historic environment feature.<br>▪ Change to key elements of a heritage asset or its setting such that its sensitivity is totally or significantly altered. |

| Magnitude of Impact | Criteria for Defining Level |
|---|---|
| Medium | ▪ A considerable change or appreciable difference to the existing baseline.<br>▪ Changes to key materials / fabric such that the sensitivity of the heritage asset is significantly modified.<br>▪ Considerable changes to setting that affect the character or sensitivity of the asset. |
| Low | ▪ Changes to materials / fabric such that the sensitivity of the heritage asset is slightly different.<br>▪ Minor change to the setting of a heritage asset.<br>▪ A minor change to the baseline condition of a heritage asset. |
| Negligible | ▪ Very slight change to material / fabric of a heritage asset that makes little contribution to its sensitivity.<br>▪ No perceptible change to the setting of a heritage asset.<br>▪ A barely distinguishable change to the historic environment baseline. |
| None / No Impact | ▪ No change or a change to fabric of a heritage asset that makes no contribution to its sensitivity.<br>▪ No change to the setting of a heritage asset. |

## SIGNIFICANCE CRITERIA

7.2.44. The significance level attributed to each effect has been assessed based on the sensitivity / value of the affected receptor(s) and the magnitude of change arising from the Proposed Development, as well as a number of other factors that are outlined in more detail in **Volume 1, Chapter 5: Approach to EIA** and in **Appendix 7.1: Built Heritage Assessment, Appendix 7.2: Historic Barns Assessment, Great House Farmhouse, Southwater, and Appendix 7.3: Archaeological and Historic Desk-Based Assessment**. The sensitivity of the affected receptor is assessed on a scale of high, medium, low and negligible, and the magnitude of change is assessed on a scale of large, medium, small, negligible and no change, as set out in **Volume 1, Chapter 5: Approach to EIA**.

7.2.45. The sensitivity of a heritage asset, together with the magnitude of impact, defines the significance of the effect for the heritage asset in question. The significance of effect has been established with reference to the matrix set out in **Table 7.5**.

**Table 7-5 - Assessment Matrix for Significance of Effect**

| | | Sensitivity of Receptor / Receiving Environment to Change | | | | |
|---|---|---|---|---|---|---|
| | | **High** | **Medium** | **Low** | **Negligible** | |
| **Magnitude of Change** | **High** | Major | Major / Moderate | Moderate / Minor | Minor / Negligible | |
| | **Medium** | Major / Moderate | Moderate / Minor | Minor / Negligible | Negligible | |
| | **Low** | | Moderate / Minor | Minor / Negligible | Negligible | Negligible |
| | **Negligible** | | Minor / Negligible | Negligible | Negligible | Negligible |

7.2.46. This assessment process is not quantitative but relies upon professional judgement at each step. However, the factors considered in informing these judgements and in arriving at the various rankings and magnitudes of impact and significance of effect are observable facts (i.e., numbers of assets, special relationships, designations, impacts). This matrix approach is not intended to mechanise judgement on the significance of effect, but to act as a check to ensure that judgements regarding sensitivity, magnitude of impact and significance of effect are reasonable and balanced, in order to allow for professional judgement.

7.2.47. Designated heritage assets such as scheduled ancient monuments and listed buildings are all of high or medium sensitivity and so even low levels of predicted magnitude of change to these features can be significant.

7.2.48. Effects can be adverse or beneficial. Beneficial effects are those that mitigate existing impacts and help to restore or enhance the importance / value of heritage assets, therefore allowing for greater understanding and appreciation of them. Effects may be temporary or permanent.

7.2.49. Where possible there will be an attempt to mitigate by design any impacts on particularly sensitive assets. Where adverse residual effects on sensitive receptors are determined to be 'significant' for the purposes of the EIA Regulations, they may be subject to further mitigation and justification.

7.2.50. The following terms have been used to define the significance of the effects identified and apply to both beneficial and adverse effects:

- **Major effect**: where the Proposed Development could be expected to have a substantial improvement or deterioration on receptors.
- **Moderate effect**: where the Proposed Development could be expected to have a noticeable improvement or deterioration on receptors.
- **Minor effect**: where the Proposed Development could be expected to result in a perceptible improvement or deterioration on receptors; and
- **Negligible**: where no discernible improvement or deterioration is expected as a result of the Proposed Development on receptors, including instances where no change is confirmed.

7.2.51. As set out in **Volume 1, Chapter 5: Approach to EIA**, effects that are classified as **moderate or above** are considered to be **significant**. Effects classified as below **moderate** are considered to be **not significant**.

## 7.3. LEGISLATIVE FRAMEWORK, POLICY AND GUIDANCE

### LEGISLATIVE FRAMEWORK

7.3.1. The applicable legislative framework is summarised within **Volume 2, Appendix 5.2: Policy, Guidance and Legislation**.

## 7.4. BASELINE CONDITIONS

7.4.1. The following presents a high-level summary of the baseline conditions of the Site and its surroundings with respect to the historic built environment. Details are provided in **Sections 7.1.4 to 7.1.6** above.

7.4.2. The Site covers a large area of approximately 116.7ha of open grassed fieldscapes and dispersed farmsteads of medieval origin. The Site was first assessed for its built heritage, archaeological and historic landscape potential and for the survival of features of historic landscape interest in 2022. Since that time, the applicant has been working with the Local Planning Authority, Horsham District Council (the 'Council'), and key stakeholders, for landscape and heritage-led mixed-use development of the Site. The proposal will provide a mix of homes including affordable homes.

7.4.3. Built heritage features and archaeological sites and monuments are recorded in national and / or local historic environment databases, in this instance the National Record of the Historic Environment (NRHE) **(Ref 7.4)** held by Historic England, and the West Sussex Historic Environment Record (HER) **(Ref 7.3)**, held by West Sussex County Council. Listed buildings are recorded as part of the National Heritage List for England (NHLE) **(Ref 7.13)**, compiled by Historic England. Details of conservation areas (including conservation area appraisals) and locally listed buildings are compiled locally by the local planning authority. Finds made by metal detectorists are reported through the Portable Antiquities Scheme (PAS) **(Ref 7.5)**. All data has been combined within a GIS workspace to allow for layers of data to be scrutinised both temporally and spatially to build up a historic baseline narrative for the development of the Site and its wider context from the Palaeolithic to the present.

7.4.4. The Site has mainly been agricultural land throughout its recorded history, comprising predominantly arable land with adjacent copses and tree belts forming part of the historic land divisions, as noted on the 1844 Horsham Tithe map and apportionment.

7.4.5. Developmental effects on built heritage and archaeology can be far-reaching and change to heritage assets and their settings and to the buried archaeological resource can be irreversible, as these assets and archaeological deposits are finite, fragile and irreplaceable. Although 'Setting' is not a designation in itself, it is a key factor in designation and therefore change to the setting of heritage assets can diminish their value and significance.

### BUILT HERITAGE BASELINE

7.4.6. There are no designated built heritage assets within the Site, although the small group of barns associated with Great House Farmhouse are included which are regarded as non-designated heritage assets.

7.4.7. The importance of the Grade II* listed Great House Farmhouse and its rural, medieval landscape setting is at the forefront of the design thinking for the Proposed Development; however, this does not detract from or diminish the value and significance of the other listed and locally listed buildings and structures that are equally considered here, both individually and with regard to their group value.

7.4.8. Notable Listed Buildings lying within the immediate proximity of the Site include:

- Great House Farmhouse (Grade II*) is entirely enclosed by the Site on all sides but lies outside of the Site boundary, although its associated barns lie within the Site boundary;
- Eleven Grade II listed buildings and one Parish Heritage Asset are proximate to the western boundary of the Site, located on Two Mile Ash Road (Old Lodge to North East of Christ's Hospital; East Lodge and gateway, Christ's Hospital School; Sluetts, Christ's Hospital (now Field End Cottage); Lanaways Farmhouse, Christ's Hospital; Lanaways Barn; Bodiman's, Christ's Hospital; Barn to North West of Sayers Farmhouse, Christ's Hospital; Sayers Farmhouse, Christ's Hospital; Swains; Barn to North West of Marlpost Farmhouse; Marlpost Farmhouse and Bax Castle Public House);
- A group of three Grade II listed buildings (Holy Innocents Church, Vicarage Cottage and Southwater House) are located to the south of the Broadacres development and are located to east of the outlying section of the Site;
- College Farmhouse, Grade II, is located at the eastern edge of the Site, now experienced within the Broadacres development; and
- One Grade II listed building (Pond Farmhouse) and two Parish Heritage Assets are located along Worthing Road, to the east of the Site, experienced as part of the modern built environment of Southwater.

7.4.9. Additionally, the following historic landscape features exist:

- The Manorial boundary (of possible Saxon and medieval date);
- The Site also contains Ancient Woodland located at Smiths Copse and Courtland Wood;
- Important Hedgerows lie within the Site; and
- A network of Public Rights of Way (PRoW) connect Southwater and the Site to the more rural areas.

7.4.10. The relict medieval rural landscape setting of Great House Farmhouse and its agricultural complex (and other isolated designated heritage assets) associated with Sele Priory is a key reason given for its listing at Grade II*. This ES Chapter acknowledges that the setting of Great House Farmhouse is likely to be altered as a result of the Proposed Development and concludes that with appropriate mitigation measures the harm could be reduced to an acceptable level in places, where the remaining effects would not be regarded as significant in EIA terms, if balanced by the delivery of public benefits. The open countryside and its historic field patterns surrounding the heritage asset make a positive contribution to the appreciation of the historic farmstead, and thus to the significance of the listed building, not simply by allowing the historical use of the building to be visually related to the land, but by providing a unified visual experience of open ground all round it.

7.4.11. This setting also helps illustrate the wider historic settlement pattern across this part of the Low Weald of dispersed farmsteads with intervening countryside in between. This and the linear pattern of key routeways is a key consideration with regard to the character and significance of the distinct hamlets that make up the landscape.

7.4.12. The group value of all the local listed buildings including Great House Farm and the parish church and vicarage, and heritage components of this dispersed group currently does not represent a suburban or edge of settlement group but illustrates the dispersed nature of the historic settlement pattern that encompasses several named places, for example, Bonfire Hill, Crockhurst, Marlpost and other local hamlets and areas.

7.4.13. The retention of PRoW, ancient woodland, hedgerows, trees and field boundaries, as well as green corridors is a key feature of the Proposed Development.

7.4.14. Each of these local places has a distinct character, each is individual and separate to places such as the hamlet of Southwater Street, the agricultural complex of Great House Farm, the area of industrial activity and dwellings that is centred on the portion of Worthing Road close to the brickworks, or the former railway industrial heritage of the Downs link and the former railway station.

7.4.15. The road systems and streetscape have been designed to respond to local character, based on a tiered system with sections having distinct character areas, and reflecting a village and agricultural feel especially next to Great House Farmhouse and its associated barns.

## ARCHAEOLOGICAL BASELINE

7.4.16. Archaeological baseline conditions have been established from scrutiny of the data returned as part of the 2025 HER search, as well as comprehensive research, analysis of LiDAR data, aerial imagery and a Site walkover survey in November 2025. Conditions are also be informed by a historic map regression exercise and ground-truthed in the field, particularly in terms of historic landscape features. All data has been combined within a GIS workspace to allow for layers of data to be scrutinised both temporally and spatially to build up a historic baseline narrative for the development of the Site and its wider context from the Palaeolithic to the present day.

7.4.17. There are no Scheduled Monuments within the Site, nor within the wider study area. The nearest Scheduled Monuments are located c.1.7km to the northeast and c.2km to the west of the Site, comprising a medieval moated site and fishponds at Chesworth House and a medieval moated site at Sedgwick Castle. Sedgwick Castle also lies within a wider Grade II Registered Park and Garden, a former medieval deer park. These have been scoped out of further assessment owing to intervening built form and landscape, and it is not considered that the Site makes any contribution to these assets' settings or significance.

7.4.18. A large part of the central and the southern portion of the Site lies within an Archaeological Notification Area (ANA DWS58545), as defined by West Sussex County Council **(Ref 7.3)**. ANAs are areas that indicate the existence, or probable existence, of archaeological heritage assets. They have been created from the information held on the West Sussex HER and are a form of early warning system so that appropriate steps can be taken to record and protect heritage assets in advance of development.

7.4.19. A total of 100 HER archaeological Monument / Point records and 21 Event / Activity records were returned within the 1km study area search of the West Sussex HER **(Ref 7.3)** in December 2025. Approximately half of these entries relate to historic farmsteads of medieval and post-medieval date, the data having been supported by the influx of sites onto the HER by virtue of the 2006 Forum Heritage Services report on Historic Farmsteads and Landscape Character in West Sussex. The remaining entries range from Mesolithic and Neolithic flint scatters through to records of wartime activity, including a World War II aircraft crash site. A British aircraft crashed in 1944 between Great House Farmhouse and Southwater School, but the aircraft was recovered and the crew unharmed. This record has been assessed by the RPS TT UXO and military archaeology subject matter specialists and does not require investigation under the Protection of Military Remains Act (POMRA) 1986.

7.4.20. The historic landscape within and surrounding the Site displays some considerable time depth and coherence, which is reflected in the relict field pattern, with the surviving boundaries of medieval date and pockets of ancient woodland with ghylls. The retention of ancient woodland, hedgerows, trees and field boundaries, as well as green corridors and a maintenance strip, is a key feature of the design.

7.4.21. During the Saxon period, the Site was subdivided by a roughly north-south boundary bank running through the main development area which denoted it falling into two separate manorial landholdings: Marlpost to the west and Crockhurst to the east. This Saxon former manorial boundary is of archaeological significance and remains legible in the landscape surviving intact in localised sections across the Site and forming a north-south spine through the Site, skirting Courtland Wood on its eastern side. This feature is not recorded in the WSHER **(Ref 7.3)** but is clear in the landscape as a sinuous planted bank and ditch. The 2026 Masterplan includes the preservation of this ancient boundary and notes that care must be taken so that any disturbance to this is kept to a minimum.

7.4.22. As the Site has remained undeveloped since mapping began, any below ground archaeological remains that were once present could be relatively undisturbed and should be anticipated to survive at a relatively shallow depth below the current ground surface.

7.4.23. The Site was enclosed in a piecemeal fashion from at least the twelfth century onwards as assarts (woodland cleared in small parcels) which in turn create shaws (wooded field boundaries). Some ‘lost’ hedgerow boundaries in the Site are ‘preserved’ by way of surviving mature trees which stand as a reminder of a former land division. The presence of ‘Important’ hedgerows and other historic landscape features should not preclude development and preservation of the existing historic hedgerows, boundaries, woodland, shaws and paths is incorporated into the Proposed Development, with circa 95% of the hedgerows themselves or the boundaries they represent, physically or in design preserved in accordance with the Hedgerows Regulations. The same principle should be applied to other historic landscape features identified in the assessment or through future fieldwork or survey.

7.4.24. The layout of field parcels recorded within the 1844 Tithe map and apportionment are preserved in the Masterplan design, and placenames will be included within the scheme interpretively as a recognition of the Site’s historic past.

7.4.25. Differing historic land ownership and the subdivision by the Saxon manorial boundary has created subtle differences in the surviving historic landscape pattern in terms of historic boundary loss and field shape: there is greater boundary loss in the northern portion of the Site, first occurring in the late nineteenth century following the acquisition of the land by Christ's Hospital, with a disruption to landscape pattern also as a result of the construction of the modern A24 Horsham by-pass. The western part of the central area remains largely intact, whereas there has been some boundary loss on the eastern side because of modern field amalgamation.

7.4.26. In the southern portion, the relict medieval landscape has been subdivided by the former Shoreham to Horsham (Christ's Hospital) Railway line (The Downs Link) which was embanked across the Site and saw the loss of several former boundaries to the south of the Mid-Sussex Railway line, and by 1877 there was also the loss of Garlis wood, a former ancient woodland.

7.4.27. The railway infrastructure is of industrial archaeological interest, as are wartime and defence features recorded on the WSHER (2025) **(Ref 7.3)**.

7.4.28. The rural, medieval landscape setting of Great House Farmhouse and its agricultural complex (and other isolated designated heritage assets) is of archaeological and built heritage significance. Development has been moved away from Great House Farmhouse in all directions. The dispersed pattern of farmsteads is a key consideration with regard to the archaeological character, time-depth and significance of the distinct farmsteads and hamlets that make up the landscape.

7.4.29. The Site is flanked by Two Mile Ash / Marlpost Road on its western side and Worthing Road on its eastern side: both are ancient north-south routeways through the landscape connecting lowland and coastal settlements in the south with the Low and High Weald to the north, conjoining to the south of Horsham to the north of Denne Park. Both roads were connected by a series of historic footpaths running east-west across the Site in bands largely radiating out of the various historic (medieval) farmsteads flanking the Site (Swains; Great House; Watlings (now The Moat House); Sayers; Bodimans; Pond Farm; Lanaways; Little Pinfold (was Tower Hill Farm, then Pinfolds) and Stammerham. These routes are largely preserved within the current PRoW network and remain unaltered in the Proposed Development.

7.4.30. The Site has been subject to several phases of non-intrusive archaeological geophysical survey which robustly covers the Site area. The cumulative results of these have not indicated potential areas of high archaeological sensitivity.

7.4.31. In summary, it is considered that based on current evidence, the Site has a moderate to high potential for deposits of earlier prehistoric, later prehistoric (Iron Age) and Romano-British date within the Site, and a low to moderate potential for deposits dating to the Anglo-Saxon and Medieval periods within the Site (excluding the manorial boundary and pattern of field systems). This is based on discoveries within the Site, and across the wider landscape immediately adjacent (including the Broadacres development). There is a moderate potential for post-medieval deposits relating to the agricultural use of the Site.

7.4.32. The true nature of the archaeological resource and its significance remains uncertain and is to be determined, and so further assessment and investigations will be required. It must be noted, that any such *a priori* assumptions will have to be ground tested by archaeological evaluation, and it remains possible that significance archaeology could be encountered on the Site, even though this is not currently indicated by research, survey works or nearby archaeological investigations, such as the works in advance of the Broadacres development to the east.

7.4.33. The Site encompasses a relict Saxon and medieval landscape, with dispersed settlement, industrial workings of medieval and post-medieval date, and 19th and 20th century railway and ribbon development.

**FUTURE BASELINE**

7.4.34. It is anticipated that a residential led mixed use development would take place in line with the draft allocation in the emerging Horsham District Local Plan **(Ref 7.14)**. The exact nature of any changes to the baseline may vary.

7.4.35. If no change were to occur Built Heritage Assets would be retained in an authentic medieval fieldscapes setting. No harm would be posed to these assets.

7.4.36. It is possible that the currently dilapidated group of barns located adjacent to Great House Farmhouse might continue to deteriorate and some further loss of historic fabric might occur. The proposal could create a minor heritage benefit of restoring historic fabric within this group of buildings (where possible). This benefit would not outweigh the harm of introducing built form into the currently rural setting of the barns, even though the Broadacres development is already close to the barns group.

## 7.5. SENSITIVE RECEPTORS

7.5.1. The following sensitive receptors for built heritage and archaeology have been assessed:

**Table 7-6 – Assessed Sensitive Receptors**

| Cultural Heritage Receptor | Sensitivity |
|---|---|
| Great House Farmhouse, Grade II* (List entry number: 1286023) | High |
| Old Lodge to North East of Christ's Hospital, Grade II (NHLE reference: 1027033) | High |
| East Lodge and gateway, Christ's Hospital School, Grade II (NHLE reference: 1462525) | High |
| Sluetts, Christ's Hospital, Grade II (NHLE reference: 1027035) | High |
| Lanaways Farmhouse, Christ's Hospital, Grade II (NHLE reference: 1027036) | High |
| Lanaways Barn, Grade II (NHLE reference: 1119726) | High |
| Bodimans, Christ's Hospital, Grade II (NHLE reference: 1354171) | High |
| Sayers Farmhouse, Christ's Hospital, Grade II (NHLE reference: 1027037) | High |
| Barn to North West of Sayers Farmhouse, Christ's Hospital (NHLE reference: 1027038) | High |
| College Farmhouse, Grade II (NHLE reference: 1354174) | High |
| Pond Farmhouse, Grade II (NHLE reference: 1027041) | High |
| Holy Innocents Church, Grade II (NHLE reference:1259780) | High |
| Vicarage Cottage, Grade II (NHLE reference: 1027059) | High |

| Cultural Heritage Receptor | Sensitivity |
|---|---|
| Southwater House, Grade II (NHLE reference: 1409948) | High |
| Dining Hall and Water Tower to North, School to South, Colonnaded Wings to East and West (Chapel in West Wing) Forming a Quadrangle, and 8 H Shaped Blocks (4 on each side of Dining Hall) at Christ's Hospital, Grade II* (NHLE reference: 1027034) | High |
| Arts Centre and Music School at Christ's Hospital, Grade II* (NHLE reference: 1247243) | High |
| Barns at Great House Farm, Non-Designated Heritage Asset | Low |
| Pump Cottage, Worthing Road, Non-Designated Heritage Asset | Low |
| The Hen and Chicken Public House, Worthing Road, Non-Designated Heritage Asset | Low |
| Ye Olde Barn, Worthing Road, Non-Designated Heritage Asset | Low |
| Christ's Hospital Station Goods Shed, Non-Designated Heritage Asset | Low |
| Station Cottages at Christ's Hospital Station, Non-Designated Heritage Asset | Low |
| Archaeological finds and features | Low |
| Medieval manorial boundary | Low |
| Surviving historic hedgerows / shaws | Low |
| Relict medieval landscape | Low |
| Historic routeways | Low |

7.5.2. All key sensitive receptor locations in relation to cultural heritage are shown on **Figures 7.1: Built Heritage Assets Plot – 500m search area** and **7.2: HER Plot 1km search area Archaeology (data from West Sussex HER).**

## 7.6. ASSESSMENT OF POTENTIAL EFFECTS, MITIGATION AND RESIDUAL EFFECTS

### EMBEDDED MITIGATION

7.6.1. The design of the Proposed Development has evolved as an iterative process and is a heritage- and landscape led design and changes since 2022 have been designed to ameliorate heritage harm.

7.6.2. Good quality design will be an integral part of the design process for the Proposed Development, including the application of a high-quality architectural design relating to form and materials, along with public realm benefits. The assessment will consider these embedded mitigation measures for the purposes of assessing magnitude of impact and thereby significance of operational effects.

7.6.3. At present the surroundings of Great House Farmhouse include a range of barns. A number of these structures are of no historic or architectural interest and interrupt the former intervisibility between surviving historic barns within the group and the principal listed building (the farmhouse). Redevelopment of the barns area, retaining the historic barns and removing later structures of poorer quality, would offer important opportunities to re-establish the historic spatial relationship with Great House Farmhouse and allow for enhanced appreciation of its importance as part of a wider farmstead. Removing development and allotments to the east and south of Great House Farmhouse Barns allows wider connectivity with other heritage assets and maintains – in part - the current rural landscape setting and views in and out of the listed building.

7.6.4. The Proposed Development aims to deliver a heritage-led design for the barns group as advised by the Council and Historic England by the removal of modern industrial elements, by sensitive restoration and by finding new, authentic uses especially for Barns A-C. This is however dependant on assessment of the current state of the barns and whether they can be restored as they do appear to be in places in an advanced state of dilapidation. The design of the Barns area will be informed by Historic England's Farmstead Guidance.

7.6.5. The retention of Public Rights of Way, Ancient Woodland, hedgerows, trees and field boundaries, as well as green corridors is a key feature of the design.

### ARCHAEOLOGY

7.6.6. The Site will be subject to a range of archaeological mitigation options to inform the scope and timing of further archaeological fieldwork, and to inform the design of the Proposed Development.

7.6.7. The presence of 'Important' hedgerows and other historic landscape features should not preclude development. The emerging masterplan will be careful to preserve the hedgerows themselves and the boundaries they represent, physically or in design as embedded mitigation.

7.6.8. The Proposed Development seeks to minimise the impact to the historic landscape through a combination of retention and avoidance and attempts to be a sympathetic heritage-led development at a scale and grain which will fit comfortably into its surroundings.

## CONSTRUCTION PHASE

### Built Heritage

**Table 7-7 - Assessment of Potential Effects, Additional Mitigation, Residual Effects and Monitoring during Construction - Built Heritage**

| | |
|---|---|
| **Sensitive receptor** | ▪ Great House Farmhouse, Grade II* (List Entry Number: 1286023)<br>▪ Barns at Great House Farm, Non-Designated Heritage Assets |
| **Potential effects** | Temporary views of construction equipment, construction traffic, dust and noise within close and / or mid settings of the identified built heritage assets.<br><br>Demolition must be carefully monitored to avoid harm or impact to the retained historic barn structures A -C. Benefits accrued by demolition of barns (Barns D – J) currently restricting views towards the Grade II* listed building and Barns A – C from the surrounding area.<br><br>The sensitivity of Great House Farmhouse is high, and the magnitude of change is medium for adverse impacts and low for beneficial impacts. Therefore, there is likely to be a direct, temporary, medium-term **moderate adverse** effect (**significant**) and a direct, permanent **minor beneficial** effect (**not significant**) on this listed building. The demolition of the barns at Great House Farm will result in a more sympathetic heritage setting for the Great House Farmhouse.<br><br>The sensitivity of the Barns at Great House Farm is low, and the magnitude of change is low for adverse impacts and low for beneficial impacts. Therefore, there is likely to be a direct, temporary, medium-term **negligible adverse** effect (not significant) and a direct, permanent **negligible beneficial** effect (**not significant**) on this non-designated heritage asset. |
| **Additional mitigation** | Additional mitigation measures are required are detailed in Section 7.6 above.<br><br>▪ A programme of Historic Building Recording (with analysis of fabric) on the barns complex.<br>▪ A Construction Environmental Management Plan (CEMP).<br>▪ A Landscape and Environmental Management Plan (LEMP).<br>▪ At reserved matters stage, consider creative opportunities to enhance heritage assets and deliver public (heritage) benefit, and public engagement. |
| **Residual effects and monitoring** | Great House Farmhouse: There is no physical effect on the listed building but there are effects to it setting. Therefore, there is likely to be a direct, temporary, medium-term **minor adverse** residual effect (**not significant**) and a direct, permanent **minor beneficial** residual effect (**not significant**) to the setting, following the implementation of mitigation measures.<br><br>Barns at Great House Farm: There is likely to be a direct, temporary, medium-term **minor adverse** (**not significant**) residual effect and a direct, permanent **minor beneficial** (**not significant**) residual effect on this non-designated heritage asset following the implementation of mitigation measures. |

| | |
|---|---|
| **Sensitive receptor** | ▪ Old Lodge to North East of Christ's Hospital, Grade II (NHLE reference: 1027033)<br>▪ East Lodge and gateway, Christ's Hospital School, Grade II (NHLE reference: 1462525)<br>▪ Sluetts, Christ's Hospital, Grade II (NHLE reference: 1027035) |
| **Potential effects** | Temporary views of construction equipment, construction traffic, dust and noise within wider settings of the identified built heritage assets.<br>The sensitivity of the listed buildings is high, and the magnitude of change is low. Therefore, there is likely to be a direct, temporary, medium-term **minor adverse** effect on these listed buildings (**not significant**). |
| **Additional mitigation** | No additional mitigation measures are required for these assets specifically, although they may benefit from those measures detailed in Section 7.6 above. |
| **Residual effects and monitoring** | There is likely to be a direct, temporary, medium-term **minor adverse** (**not significant**) residual effect on these listed buildings. |

| | |
|---|---|
| **Sensitive receptor** | ▪ Lanaways Farmhouse, Christ's Hospital, Grade II (NHLE reference: 1027036)<br>▪ Lanaways Barn, Grade II (NHLE reference: 1119726)<br>▪ Bodimans, Christ's Hospital, Grade II (NHLE reference: 1354171)<br>▪ Sayers Farmhouse, Christ's Hospital, Grade II (NHLE reference: 1027037)<br>▪ Barn to North West of Sayers Farmhouse, Christ's Hospital (NHLE reference: 1027038) |
| **Potential effects** | Temporary views of construction equipment, construction traffic, dust and noise within mid settings of the identified built heritage assets.<br>The sensitivity of the listed buildings is high, and the magnitude of change is low. Therefore, there is likely to be a direct, temporary, medium-term **minor adverse** (**not significant**) effect on the setting of these listed buildings. |
| **Additional mitigation** | No additional mitigation measures are required for these assets specifically, although they may benefit from those measures detailed in Section 7.6 above. |
| **Residual effects and monitoring** | There is likely to be a direct, temporary, medium-term **minor adverse** (**not significant**) residual effect on these listed buildings. |

| | |
|---|---|
| **Sensitive receptor** | ▪ College Farmhouse, Grade II (NHLE reference: 1354174)<br>▪ Pond Farmhouse, Grade II (NHLE reference: 1027041)<br>▪ Pump Cottage, Worthing Road, Non-Designated Heritage Asset<br>▪ The Hen and Chicken Public House, Worthing Road, Non-Designated Heritage Asset<br>▪ Ye Olde Barn, Worthing Road, Non-Designated Heritage Asset |
| **Potential effects** | Temporary views of construction equipment, construction traffic, dust, and noise within mid-distance settings of the identified built heritage assets, within context of existing urbanised surroundings.<br><br>The sensitivity of the listed buildings is high, and the magnitude of change is low. Therefore, there is likely to be a direct, temporary, medium-term **minor adverse** (**not significant**) effect on these listed buildings.<br><br>The sensitivity of the non-designated heritage assets is low, and the magnitude of change is low. Therefore, there is likely to be a direct, temporary, medium-term **negligible adverse** (**not significant**) effect on these non-designated heritage assets. |
| **Additional mitigation** | No additional mitigation measures are required for these assets specifically, although they may benefit from those measures detailed in Section 7.6 above. |
| **Residual effects and monitoring** | Listed Buildings: There is likely to be a direct, temporary, medium-term **minor adverse** (**not significant**) residual effect on these listed buildings following the implementation of mitigation measures if deemed required.<br><br>Non-designated heritage assets: there is likely to be a direct, temporary, medium-term **negligible adverse** (**not significant**) residual effect on these non-designated heritage assets following the implementation of mitigation measures if deemed required. |

| | |
|---|---|
| **Sensitive receptor** | ▪ Holy Innocents Church, Grade II (NHLE reference:1259780)<br>▪ Vicarage Cottage, Grade II (NHLE reference: 1027059)<br>▪ Southwater House, Grade II (NHLE reference: 1409948) |
| **Potential effects** | Temporary views of construction equipment, construction traffic, dust and noise within mid settings of the identified listed buildings, associated with construction of sports pitch to the west.<br><br>The sensitivity of these listed buildings is high, and the magnitude of change is low. Therefore, there is likely to be a direct, temporary, medium-term **minor adverse** (**not significant**) effect on these listed buildings. |
| **Additional mitigation** | No additional mitigation measures are required for these assets specifically, although they may benefit from those measures detailed in Section 7.6 above. |
| **Residual effects and monitoring** | There is likely to be a direct, temporary, medium-term **minor adverse** (**not significant**) residual effect following the implementation of mitigation measures if deemed required, on these listed buildings. |

| | |
|---|---|
| **Sensitive receptor** | ▪ Christ's Hospital Station Goods Shed, Non-Designated Heritage Asset<br>▪ Station Cottages at Christ's Hospital Station, Non-Designated Heritage Asset |
| **Potential effects** | Temporary views of construction equipment, construction traffic, dust and noise within close settings of the identified heritage assets, associated with construction of car park.<br>The sensitivity of these heritage assets is low, and the magnitude of change is low. Therefore, there is likely to be a direct, temporary, medium-term **minor adverse** effect (**not significant**). |
| **Additional mitigation** | No additional mitigation measures are required for these assets specifically, although they may benefit from those measures detailed in Section 7.6 above. |
| **Residual effects and monitoring** | There is likely to be a direct, temporary, medium-term **minor adverse** (**not significant**) residual effect following the implementation of mitigation measures if deemed required, on these listed buildings. |

| | |
|---|---|
| **Sensitive receptor** | ▪ Dining Hall and Water Tower to North, School to South, Colonnaded Wings to East and West (Chapel in West Wing) Forming a Quadrangle, and 8 H Shaped Blocks (4 on each side of Dining Hall) at Christ's Hospital, Grade II* (NHLE reference: 1027034).<br>▪ Arts Centre and Music School at Christ's Hospital, Grade II* (NHLE reference: 1247243). |
| **Potential effects** | Very limited temporary views of construction equipment, construction traffic and distant experience of noise within wider setting of the listed buildings.<br>The sensitivity of these listed buildings is high, and the magnitude of change is low. Therefore, there is likely to be a direct, temporary, medium-term **minor adverse** (**not significant**) effect on these listed buildings. |
| **Additional mitigation** | No additional mitigation measures are required for these assets specifically, although they may benefit from those measures detailed in Section 7.6 above. |
| **Residual effects and monitoring** | There is likely to be a direct, temporary, medium-term **minor adverse** (**not significant**) residual effect on these listed buildings following the implementation of mitigation measures if deemed required |

7.6.9. It is noted that the rural, medieval landscape setting of Great House Farmhouse and other isolated local assets is a key feature covered by the listings, and, although setting is not a heritage designation of itself, it does contribute to the significance of heritage assets and forms a key part of the reasons for designation. As development will introduce built form into a previously rural greenfield site, it is evident that the Proposed Development does represent heritage harm, particularly with regard to the setting of these assets.

7.6.10. Using EIA terminology and for the purposes of the ES Chapter, potential physical impacts to Great House Farmhouse (a receptor of high sensitivity) are regarded as low adverse and low beneficial, resulting in moderate adverse and low beneficial significance of effects to the setting of the Farmhouse. The degree of harm or adverse effects has been mitigated down in consultation with Historic England to now within the lower range of less than substantial harm, achieved through design change and mitigated by the delivery of public benefits.

7.6.11. For the purposes of the ES Chapter, the impacts to Barns A – C (receptors of low sensitivity) are medium adverse and medium beneficial, resulting in both minor adverse and minor beneficial significance of effects. It should be noted that the degree of adverse effects can be further mitigated, however, through historic building recording, good design and the delivery of public benefits.

7.6.12. Based on current evidence, the assessment concludes that there are no direct physical impacts to Great House Farm and effects to its setting can be balanced by sympathetic design, a range of bespoke mitigation measures and the delivery of public benefits. The Proposed Development reduces, avoids and minimises heritage harm, through reduction of the quantum of development compared with the 2022 submission, by sensitive changes to the layout of residential plots and by the sympathetic design of the new tiered road systems.

**Archaeology**

**Table 7-8 - Assessment of Potential Effects, Additional Mitigation, Residual Effects and Monitoring During Construction - Archaeology**

| | |
|---|---|
| **Sensitive receptor** | ▪ Non-Designated Archaeological finds and features |
| **Potential effects** | Potential for direct physical impacts.<br>The full nature of the buried archaeological resource and its significance remains uncertain. The sensitivity of archaeological finds and features is likely to be low, and the magnitude of change is high but mitigated by best practice archaeological strategies. Therefore, there is likely to be a direct, permanent, long-term **minor adverse** (**not significant**) effect on archaeological finds and features. |
| **Additional mitigation** | Additional mitigation measures are required for archaeological interest as detailed in Section 7.6 above. These include:<br>▪ A programme of Archaeological Evaluation works (followed by any archaeological mitigation to publication and deposition of the Site archive) is required. This could be secured by a condition on any future grant of planning consent. The scope of the archaeological investigation and reporting, to be agreed in advance with HDC and their archaeological advisors. |
| **Residual effects and monitoring** | Although preservation by record is not a replacement for preservation *in situ,* given that archaeological mitigation is inherently a destructive process, there is likely to be a direct, permanent, long-term **negligible adverse** (**not significant**) effect on archaeological finds and features following the implementation of mitigation measures. |

| | |
|---|---|
| **Sensitive receptor** | ▪ Medieval manorial boundary, surviving historic hedgerows / shaws, relict medieval landscape and historic routeways, and their setting. |
| **Potential effects** | Potential for direct physical impacts and changes to setting. The masterplan for the Proposed Development includes embedded mitigation which has been heritage and landscape led and as such will retain and respect historic landscape features such as the medieval manorial boundary and historic hedgerows, where possible, which will be incorporated sensitively into the scheme.<br>The sensitivity of the medieval manorial boundary, surviving historic hedgerows / shaws, relict medieval landscape and historic routeways is low, and the magnitude of change is low. Therefore, there is likely to be a direct, permanent, long-term **negligible adverse** effect on archaeological finds and features (**not significant**). |
| **Additional mitigation** | A programme of Archaeological Evaluation works (followed by any archaeological mitigation) is required as the full nature of the buried archaeological resource and its significance remains uncertain. |
| **Residual effects and monitoring** | There is likely to be a direct, permanent, long-term **negligible adverse** (**not significant**)**residual** effect on the medieval manorial boundary, surviving historic hedgerows / shaws, relict medieval landscape and historic routeways and their setting following the implementation of mitigation measures. |

## OPERATIONAL PHASE

### Built Heritage

**Table 7-9 - Assessment of Potential Effects, Additional Mitigation, Residual Effects and Monitoring During Operation - Built Heritage**

| | |
|---|---|
| **Sensitive receptor** | ▪ Great House Farmhouse, Grade II* (List entry number: 1286023) |
| **Potential effects** | Views of the Proposed Development within the setting of the Grade II* listed building, change of character to former farmland, although inclusion of adjacent green open spaces preserves some sense of rurality. The nearest built form (not including the pedestrian and cycle road) to the north and west is set back (with a tree buffer in between). Beneficial effects derived from sensitive redevelopment of the barns complex in close proximity to listed building, creating new views and opportunities to experience and appreciate the architectural and historic interest of Barns A -C, supported with on-site interpretation.<br>The sensitivity of Great House Farmhouse is high, and the magnitude of change is low for adverse impacts. Therefore, there is likely to be a direct, permanent long-term **moderate adverse** effect (**significant**). |
| **Additional mitigation** | No additional mitigation measures are required beyond the high-quality design of the Proposed Development (as laid out in the accompanying Design Code), which is regarded as embedded mitigation. |
| **Residual effects and monitoring** | There will be likely to be a direct, permanent long-term **minor adverse** (**not significant**) and long-term minor **beneficial (not significant)** residual effect following the implementation of mitigation measures. |

| | |
|---|---|
| **Sensitive receptor** | ▪ Barns at Great House Farm, Non-Designated Heritage Asset |
| **Potential effects** | Beneficial effects derived from introduction of new use of Barns A -C (returning the buildings to a viable use, ensuring repairs and long-term maintenance) and creation of new opportunities to experience interest of the barns in wider views (further to demolition of the remaining later barns of no interest). Adverse effects arising from views of new built form and infrastructure within wider setting of the barns, loss of rural and agricultural character, although inclusion of green open spaces and character area around the barns preserves some sense of agricultural rurality.<br><br>The sensitivity of the Great House Farm Barns is low, and the magnitude of change is low for adverse impacts and minor for beneficial impacts. Therefore, there is likely to be a direct, permanent **minor adverse** effect (**not significant**) and a direct, permanent **minor beneficial** effect (**not significant**). |
| **Additional mitigation** | No additional mitigation measures are required beyond the high quality of the Proposed Development, which is regarded as embedded mitigation. |
| **Residual effects and monitoring** | There is likely to be a direct, permanent **minor adverse** residual effect (**not significant**) and a direct, permanent **minor beneficial** residual effect (**not significant**) following implementation of mitigation measures. |

| | |
|---|---|
| **Sensitive receptor** | ▪ Old Lodge to North East of Christ's Hospital, Grade II (NHLE reference: 1027033)<br>▪ East Lodge and gateway, Christ's Hospital School, Grade II (NHLE reference: 1462525)<br>▪ Sluetts, Christ's Hospital, Grade II (NHLE reference: 1027035) |
| **Potential effects** | Immediate and mid settings would be unchanged, adverse effects arise from loss of wider rural surroundings and introduction of built form and infrastructure.<br><br>The sensitivity of these listed buildings is high, and the magnitude of change is low for adverse impacts and low for beneficial impacts. Therefore, there is likely to be a direct, permanent **minor adverse** effect (**not significant**) for these listed buildings. |
| **Additional mitigation** | No additional mitigation measures are required beyond the high-quality design of the Proposed Development, which is regarded as embedded mitigation. |
| **Residual effects and monitoring** | There is likely to be a direct, permanent **minor adverse** (**not significant**) residual effect for these listed buildings following the implementation of mitigation measures. |

| | |
|---|---|
| **Sensitive receptor** | ▪ Lanaways Farmhouse, Christ's Hospital, Grade II (NHLE reference: 1027036)<br>▪ Lanaways Barn, Grade II (NHLE reference: 1119726)<br>▪ Bodimans, Christ's Hospital, Grade II (NHLE reference: 1354171)<br>▪ Sayers Farmhouse, Christ's Hospital, Grade II (NHLE reference: 1027037)<br>▪ Barn to North West of Sayers Farmhouse, Christ's Hospital (NHLE reference: 1027038) |
| **Potential effects** | Variable glimpsed views of the operational Proposed Development, softened by retained trees and hedgerows and reinforced by proposed landscaping.<br><br>The sensitivity of these listed buildings is high, and the magnitude of change is low for adverse impacts and negligible for beneficial impacts. Therefore, there is likely to be a direct, permanent **minor adverse** effect **(not significant)** for these listed buildings. |

| | |
|---|---|
| **Additional mitigation** | No additional mitigation measures are required beyond the high quality of the Proposed Development, which is regarded as embedded mitigation. |
| **Residual effects and monitoring** | There is likely to be a direct, permanent, long-term **minor adverse** residual effect (**not significant**) for these listed buildings following the implementation of mitigation measures. |

| | |
|---|---|
| **Sensitive receptor** | ▪ College Farmhouse, Grade II (NHLE reference: 1354174) |
| **Potential effects** | A very low degree of harm to the extended setting of the listed building, arising from the loss of wider rural surroundings.<br>The sensitivity of College Farmhouse is high, and the magnitude of change is low. Therefore, there is likely to be a direct, permanent **moderate adverse** effect on the listed building (**significant**). |
| **Additional mitigation** | No additional mitigation measures are required beyond the high quality of the Proposed Development, which is regarded as embedded mitigation. |
| **Residual effects and monitoring** | There is likely to be a direct, permanent **minor adverse** residual effect on the listed building (**not significant**) following the implementation of mitigation measures. |

| | |
|---|---|
| **Sensitive receptor** | ▪ Pond Farmhouse, Grade II (NHLE reference: 1027041)<br>▪ Pump Cottage, Worthing Road, Non-Designated Heritage Asset<br>▪ The Hen and Chicken Public House, Worthing Road, Non-Designated Heritage Asset<br>▪ Ye Olde Barn, Worthing Road, Non-Designated Heritage Asset |
| **Potential effects** | Views of the operational Proposed Development within mid-distance settings of the identified built heritage assets, within context of existing urbanised surroundings.<br>The sensitivity of the listed building in this group is high, and the magnitude of change is low. Therefore, there is likely to be a direct, permanent **minor adverse** effect on Pond Farmhouse (**not significant**).<br>The sensitivity of the non-designated heritage assets in this group is low, and the magnitude of change is low. Therefore, there is likely to be a direct, permanent **negligible adverse** effects on the listed buildings (**not significant**). |
| **Additional mitigation** | No additional mitigation measures are required beyond the high quality of the Proposed Development, which is regarded as embedded mitigation. |
| **Residual effects and monitoring** | There is likely to be a direct, permanent **minor adverse** residual effect on Pond Farmhouse (**not significant**) following the implementation of mitigation measures.<br>There is likely to be a direct, permanent **negligible adverse** residual effect on the non-designated heritage assets (**not significant**) following the implementation of mitigation measures. |

| | |
|---|---|
| **Sensitive receptor** | ▪ Holy Innocents Church, Grade II (NHLE reference:1259780)<br>▪ Vicarage Cottage, Grade II (NHLE reference: 1027059)<br>▪ Southwater House, Grade II (NHLE reference: 1409948) |
| **Potential effects** | Open views retained, some additional form in place of rural land visible to the north.<br>The sensitivity of these listed buildings is high, and the magnitude of change is low. Therefore, there is likely to be a direct, permanent **minor adverse** effect on these listed buildings (**not significant**). |
| **Additional mitigation** | No additional mitigation measures are required beyond the high quality of the Proposed Development, which is regarded as embedded mitigation. |
| **Residual effects and monitoring** | There is likely to be a direct, permanent **minor adverse** residual effect on these listed buildings (**not significant**) following the implementation of mitigation measures. |

| | |
|---|---|
| **Sensitive receptor** | ▪ Christ's Hospital Station Goods Shed, Non-Designated Heritage Asset<br>▪ Station Cottages at Christ's Hospital Station, Non-Designated Heritage Asset |
| **Potential effects** | Views of car parking within close settings of the identified heritage assets. Possible glimpsed views of the Proposed Development in the far distance.<br>The sensitivity of these heritage assets is low, and the magnitude of change is low. Therefore, there is likely to be a direct, permanent, **negligible adverse** effect (**not significant**). |
| **Additional mitigation** | No additional mitigation measures are required beyond the high quality of the Proposed Development, which is regarded as embedded mitigation. |
| **Residual effects and monitoring** | There is likely to be a direct, permanent **negligible adverse** residual effect (**not significant**) following the implementation of mitigation measures. |

| | |
|---|---|
| **Sensitive receptor** | ▪ Dining Hall and Water Tower to North, School to South, Colonnaded Wings to East and West (Chapel in West Wing) Forming a Quadrangle, and 8 H Shaped Blocks (4 on each side of Dining Hall) at Christ's Hospital, Grade II* (NHLE reference: 1027034)<br>▪ Arts Centre and Music School at Christ's Hospital, Grade II* (NHLE reference: 1247243) |
| **Potential effects** | Potential long distance glimpsed views of the Proposed Development from Two Mile Ash Road, within wider setting of listed buildings.<br>The sensitivity of these listed buildings is high, and there would be no impact arising from the Proposed Development. Therefore, there would be **no effect** on these listed buildings. |
| **Additional mitigation** | No additional mitigation measures are required beyond the high quality of the Proposed Development, which is regarded as embedded mitigation. |
| **Residual effects and monitoring** | There would be **no residual effect** on these listed buildings. |

**Table 7-10 – Assessment of Potential Effects, Additional Mitigation, Residual Effects and Monitoring During Operation - Archaeology**

| | |
|---|---|
| **Sensitive receptor** | ▪ Archaeological finds and features |
| **Potential effects** | None during operational phase. The archaeology will have been mitigated by fieldwork and reporting phases.<br>The sensitivity of archaeological finds and features is low, and the magnitude of change is negligible. Therefore, there will be no significant effect from the Proposed Development on archaeological finds and features during the operational phase. |
| **Additional mitigation** | None required. It is possible that areas of the Site may be scoped out for archaeological work or some archaeological discoveries will be made and are preserved *in situ*. Suitable mitigation strategies will be designed should this situation arise. |
| **Residual effects and monitoring** | None during operational phase.<br>There will be no significant effect from the Proposed Development on archaeological finds and features during the operational phase, as archaeological safeguards will have been delivered prior to construction commencing. |

| | |
|---|---|
| **Sensitive receptor** | ▪ Medieval manorial boundary, surviving historic hedgerows / shaws, relict medieval landscape and historic routeways, and their setting. |
| **Potential effects** | Potential for continued changes to setting. The Proposed Development plans to retain the manorial boundary and key elements of the historic landscape.<br>The sensitivity of the medieval manorial boundary, surviving historic hedgerows / shaws, relict medieval landscape and historic routeways is low, and the magnitude of change is medium. Therefore, there is likely to be a direct, permanent, long-term **minor adverse** effect on archaeological finds and features (**not significant**). |
| **Additional mitigation** | The provision of a heritage trail and interpretation signage within the Proposed Development will enhance the legibility and public understanding of the archaeological and historic context of the Site and the landscape within which it sits. Interpretation will be a beneficial effect on the whole cultural heritage resource. |
| **Residual effects and monitoring** | There is likely to be a direct, permanent, long-term **minor beneficial** (**not significant**) residual effect on the medieval manorial boundary, surviving historic hedgerows/shaws, relict medieval landscape and historic routeways following the implementation of mitigation measures. |

## 7.7. OPPORTUNITIES FOR ENVIRONMENTAL ENHANCEMENT

7.7.1. Enhancements with regard to heritage assets would be brought about by the introduction of interpretation materials within the Site. At present there are no information sources to interpret the historic landscape or any of the historic buildings within it. As such, there would be notable enhancements for broader experience and understanding of the heritage assets within the Site as a result of the Proposed Development.

7.7.2. Enhancement will be brought about for Great House Farmhouse by the creation of new views, resulting from demolition of large scale, modern barns within its close setting. These new views, particularly from the Downs Link, would offer new opportunities for viewers to experience and understand its architectural and historic interest (complemented by the accompanying interpretation strategy for the Site).

7.7.3. There would be some enhancement arising for the barns at Great House Farmhouse, introducing a new use which would secure future repairs and maintenance for the historic buildings.

## 7.8. DIFFICULTIES AND UNCERTAINTIES

7.8.1. The nature of archaeological deposits is that they are buried and this not visible or quantifiable, this lack of knowledge on the significance of potential archaeological discoveries is a risk and an uncertainty.

7.8.2. A degree of uncertainty is attached to any cultural heritage desk-based assessment work where sufficient built heritage recording (including assessment of fabric), invasive archaeological fieldwork or various surveys have not previously been undertaken within a large study site – particularly as the prevalent nature of the archaeological resource is that it is buried and therefore not visible. Desk-based assessment represents a generally theoretical modelling of above ground heritage assets and archaeological below-ground potential. The quality of the baseline data sources can affect the accuracy of the assessment for the following reasons:

- The Historic Environment Records (WSHER) **(Ref 7.3)** can be limited as it often depends on 'random' opportunities for research, fieldwork and discovery;
- The National List and listing descriptions may be limited or require updating following change to heritage assets;
- There may be a lack of dating or phasing evidence for sites and buildings;
- Documentary sources are rare before the Medieval period, and many historic documents are inherently biased;
- Site visits are undertaken of publicly accessible locations. Professional judgement is used to determine the likely effects from private properties. The Site visit captures only what is visible at the time of the visit and subtle changes may not be visible owing to weather, season or other factors;
- The extent of truncation caused by previous development impacts, ploughing and landscaping works cannot always be fully ascertained; and
- The extent of modification, repair or alteration to built heritage assets and relic landscapes including previous development impacts and landscaping works cannot be fully ascertained.

7.8.3. This means it can be difficult to accurately predict the presence, survival and likely importance of below ground archaeological assets and the effects on built heritage assets, including the likely impact (and resultant effects) of development upon such assets.

7.8.4. Additionally, the West Sussex HER **(Ref 7.3)** data is valid for 12 months from the original search date of December 2025.

7.8.5. Background information has been gathered relative to Landscape matters to understand the formation processes of the historic landscape through time, however the assessment of effects on the Landscape as an EIA topic is set out in **Volume 1, Chapter 9: Landscape and Visual**.

## 7.9. SUMMARY

7.9.1. The cultural heritage and archaeology assessment considered impacts from the demolition, construction and operational phases of the Proposed Development.

7.9.2. **Table 7-11** provides a summary of the findings of the assessment.

**Table 7-11 - Summary of Effects**

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Construction Phase** | | | | | |
| Great House Farmhouse, Grade II* | Temporary views of construction equipment, construction traffic, dust and noise.<br><br>Demolition of Barns D – J improving views of the built heritage asset. | **Moderate Adverse (significant)**<br>T / D / MT<br><br>**Minor beneficial (not significant)**<br>P / D / LT | Measures implemented in a CEMP<br><br>A programme of Historic Building Recording (with analysis)<br><br>A Landscape and Environmental Management Plan (LEMP).<br><br>At reserved matters stage, consider creative opportunities to enhance heritage assets and deliver public (heritage) benefit, and public engagement. | **Minor Adverse (not significant)**<br>T / D / MT<br><br>**Minor beneficial (not significant)**<br>P / D / LT | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Barns at Great House Farm | Temporary views of construction equipment, construction traffic, dust and noise.<br>Demolition of Barns D – J improving views of the built heritage asset. | **Negligible adverse (not significant)**<br>T / D / MT<br>**Negligible beneficial (not significant)**<br>P / D / LT | Measures implemented in a CEMP<br>A programme of Historic Building Recording (with analysis)<br>A Landscape and Environmental Management Plan (LEMP).<br>At reserved matters stage, consider creative opportunities to enhance heritage assets and deliver public (heritage) benefit, and public engagement. | **Negligible adverse (not significant)**<br>T / D / MT<br>**Negligible beneficial (not significant)**<br>P / D / LT | N/A |
| Old Lodge to North East of Christ's Hospital, Grade II | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)**<br>T / D / MT | No additional mitigation required. | **Minor Adverse (not significant)**<br>T / D / MT | N/A |
| East Lodge and gateway, Christ's Hospital School, Grade II | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)**<br>T / D / MT | No additional mitigation required. | **Minor Adverse (not significant)**<br>T / D / MT | N/A |
| Sluetts, Christ's Hospital, Grade II | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)**<br>T / D / MT | No additional mitigation required. | **Minor Adverse (not significant)**<br>T / D / MT | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Lanaways Farmhouse, Grade II | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |
| Lanaways Barn, Grade II | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |
| Bodimans, Christ's Hospital, Grade II | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |
| Sayers Farmhouse, Christ's Hospital, Grade II | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |
| Barn to North West of Sayers Farmhouse, Christ's Hospital, Grade II | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |
| College Farmhouse, Grade II | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Pond Farmhouse, Grade II | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |
| Pump Cottage, Worthing Road, Non-Designated Heritage Asset | Temporary views of construction equipment, construction traffic, dust and noise. | **Negligible adverse (not significant)** T / D / MT | No additional mitigation required | **Negligible adverse (not significant)** T / D / MT | N/A |
| The Hen and Chicken Public House, Worthing Road, Non-Designated Heritage Asset | Temporary views of construction equipment, construction traffic, dust and noise. | **Negligible adverse (not significant)** T / D / MT | No additional mitigation required | **Negligible adverse (not significant)** T / D / MT | N/A |
| Ye Olde Barn, Worthing Road, Non-Designated Heritage Asset | Temporary views of construction equipment, construction traffic, dust and noise. | **Negligible adverse (not significant)** T / D / MT | No additional mitigation required | **Negligible adverse (not significant)** T / D / MT | N/A |
| Holy Innocents Church, Grade II | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |
| Vicarage Cottage, Grade II | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Southwater House, Grade II | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |
| Christ's Hospital Station Goods Shed, Non-Designated Heritage Assets | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |
| Station Cottages at Christ's Hospital Station, Non-Designated Heritage Asset | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |
| Dining Hall and Water Tower to North, School to South, Colonnaded Wings to East and West (Chapel in West Wing) Forming a Quadrangle, and 8 H Shaped Blocks (4 on each side of Dining Hall) at Christ's Hospital, Grade II* | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Arts Centre and Music School at Christ's Hospital, Grade II* | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |
| Non-designated archaeological finds and features | Direct physical impacts | **Minor adverse (not significant)** P / D / LT | A programme of Archaeological Evaluation works (followed by any archaeological mitigation to publication and deposition of the Site archive) is required. | **Negligible adverse (not significant)** P / D / LT | N/A |
| Medieval manorial boundary, surviving historic hedgerows/shaws, relict medieval landscape and historic routeways, and their setting. | Potential for direct physical impacts and changes to setting. | **Negligible adverse (not significant)** P / D / LT | A programme of Archaeological Evaluation works (followed by any archaeological mitigation) is required. | **Negligible adverse (not significant)** P / D / LT | N/A |
| **Operation** | | | | | |
| Great House Farmhouse, Grade II* | New views of the Proposed Development, alongside beneficial effects from sensitive redevelopment of the barns complex. | **Moderate adverse (significant)** P / D / LT | No additional mitigation measures. | **Minor adverse (not significant)** P / D / LT **Minor Beneficial (not significant)** P / D / LT | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Barns at Great House Farm | Introduction of new use of Barns A -C and views of newbuild structures. | **Minor Adverse (not significant)** P / D / LT **Minor beneficial (not significant)** P / D / LT | No additional mitigation measures. | **Minor Adverse (not significant)** P / D / LT **Minor beneficial (not significant)** P / D / LT | N/A |
| Old Lodge to North East of Christ's Hospital, Grade II | Loss of wider rural surroundings and introduction of built form and infrastructure. | **Minor Adverse (not significant)** P / D / LT | No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |
| East Lodge and gateway, Christ's Hospital School, Grade II | Loss of wider rural surroundings and introduction of built form and infrastructure. | **Minor Adverse (not significant)** P / D / LT | No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |
| Sluetts, Christ's Hospital, Grade II | Loss of wider rural surroundings and introduction of built form and infrastructure. | **Minor Adverse (not significant)** P / D / LT | No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |
| Lanaways Farmhouse, Grade II | Loss of wider rural surroundings and introduction of built form and infrastructure. | **Minor Adverse (not significant)** P / D / LT | No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |
| Lanaways Barn, Grade II | Loss of wider rural surroundings and introduction of built form and infrastructure. | **Minor Adverse (not significant)** P / D / LT | No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Bodimans, Christ's Hospital, Grade II | Loss of wider rural surroundings and introduction of built form and infrastructure. | **Minor Adverse (not significant)** P / D / LT | No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |
| Sayers Farmhouse, Christ's Hospital, Grade II | Loss of wider rural surroundings and introduction of built form and infrastructure. | **Minor Adverse (not significant)** P / D / LT | No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |
| Barn to North West of Sayers Farmhouse, Christ's Hospital, Grade II | Loss of wider rural surroundings and introduction of built form and infrastructure. | **Minor Adverse (not significant)** P / D / LT | No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |
| College Farmhouse, Grade II | Loss of wider rural surroundings. | **Moderate Adverse ( significant)** P / D / LT | No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |
| Pond Farmhouse, Grade II | Views of Proposed Development within mid-distance setting.. | **Minor Adverse (not significant)** P / D / LT | No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |
| Pump Cottage, Worthing Road, Non-Designated Heritage Asset | Views of Proposed Development within mid-distance setting.. | **Negligible Adverse (not significant)** P / D / LT | No additional mitigation measures | **Negligible Adverse (not significant)** P / D / LT | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| The Hen and Chicken Public House, Worthing Road, Non-Designated Heritage Asset | Views of Proposed Development within mid-distance setting.. | **Negligible adverse (not significant)** P / D / LT | No additional mitigation measures | **Negligible adverse (not significant)** P / D / LT | N/A |
| Ye Olde Barn, Worthing Road, Non-Designated Heritage Asset | Views of Proposed Development within mid-distance setting.. | **Negligible adverse (not significant)** P / D / LT | No additional mitigation measures | **Negligible adverse (not significant)** P / D / LT | N/A |
| Holy Innocents Church, Grade II | Open views retained, but some additional new forms in place of rural land visible to the north. | **Minor Adverse (not significant)** P / D / LT | No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |
| Vicarage Cottage, Grade II | Open views retained, but some additional new forms in place of rural land visible to the north. | **Minor Adverse (not significant)** P / D / LT | No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |
| Southwater House, Grade II | Open views retained, but some additional new forms in place of rural land visible to the north. | **Minor Adverse (not significant)** P / D / LT | No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |
| Christ's Hospital Station Goods Shed, Non-Designated Heritage Assets | View of car parking within close settings, and glimpsed views of Proposed Development. | **Negligible adverse (not significant)** P / D / LT | No additional mitigation measures | **Negligible adverse (not significant)** P / D / LT | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Station Cottages at Christ's Hospital Station, Non-Designated Heritage Asset | View of car parking within close settings, and glimpsed views of Proposed Development. | **Negligible adverse (not significant)** P / D / LT | No additional mitigation measures | **Negligible adverse (not significant)** P / D / LT | N/A |
| Medieval manorial boundary, surviving historic hedgerows/shaws, relict medieval landscape and historic routeways, and their setting. | Potential for continued direct physical impacts and changes to setting. | **Minor Adverse (not significant)** P / D / LT | ▪ The provision of a heritage trail and interpretation signage within the Proposed Development. | **Minor Beneficial (not significant)** P / D / LT | N/A |

Key to table:

**P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable**

## 7.10. REFERENCES

Detailed bibliographies are shown in the Technical Reports, to be cross-referenced once the necessary sources are identified. The below references are referenced within this chapter.


**Ref 7.1**: UK Government (2024) National Planning Policy Framework. [Online] Available at: https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf

**Ref 7.2**: WSP (2025) EIA Scoping Report 2025.

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**Ref 7.4**: Historic England (2026) National Record of the Historic Environment and National Heritage List for England. [Online] Available at: https://historicengland.org.uk/

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**Ref 7.6**: Southwater Parish Council (2020) Southwater Neighbourhood Plan 2019-2031. [Online] Available at: https://www.southwater-pc.gov.uk/_files/ugd/baf94f_e366b06f1ae34b7c855e6145e1735010.pdf

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NB 05/02/2026

GRIGGS

OLD LODGE TO NORTH EAST OF CHRIST'S HOSPITAL

East Lodge and gateway, Christ's Hospital School

SLUETTS, CHRIST'S HOSPITAL

LANAWAYS FARMHOUSE, CHRIST'S HOSPITAL

LANAWAYS BARN

BODIMANS, CHRIST'S HOSPITAL

BARN TO NORTH WEST OF SAYERS FARMHOUSE, CHRIST'S HOSPITAL

SAYERS FARMHOUSE, CHRIST'S HOSPITAL

Bax Castle Public House

LAWSON'S FARMHOUSE

Great House Farmhouse

Barns at Great House Farm

SWAINS

BARN TO NORTH WEST OF MARLPOST FARMHOUSE

MARLPOST FARMHOUSE

JASMINE COTTAGE

WHEELWRIGHT HOUSE

VICARAGE COTTAGE

HOLY INNOCENTS CHURCH

Southwater House

THE COCK INN

The Hen & Chicken Public House, Worthing Road

NYE'S COTTAGE

WELLERS FARM

BLAKE'S FARMHOUSE

Pump Cottage, Worthing Road

Ye Olde Barn, Worthing Road

POND FARMHOUSE

Old School, Worthing Road

Calcot, Worthing Road

COLLEGE FARMHOUSE

Old Post Office, Worthing Ro

2, Elm Cottages

Station Cottages at Christs Hospital Station

Christ's Hospital Station Goods Shed

## Legend

- Site Boundary
- Potential BNG Land
- 500m search area

Designated Heritage Assets:

**Listed Buildings**

- Grade II*
- Grade II

Non-designated Heritage Assets:

- Non-designated heritage assets

N

0 250 500m

Scale at A3: 1:13,000

TETRA TECH

rps A TETRA TECH COMPANY

Figure 7.1

Built Heritage Assets Plot - 500m search radius

Project Ref: S:\Archaeology\Archaeology_Jobs\794-PLN-HER-1000-1999\01835 - North Southwater\JCH01590 - North Southwater\Graphics\GIS\HB plot 500m.mxd

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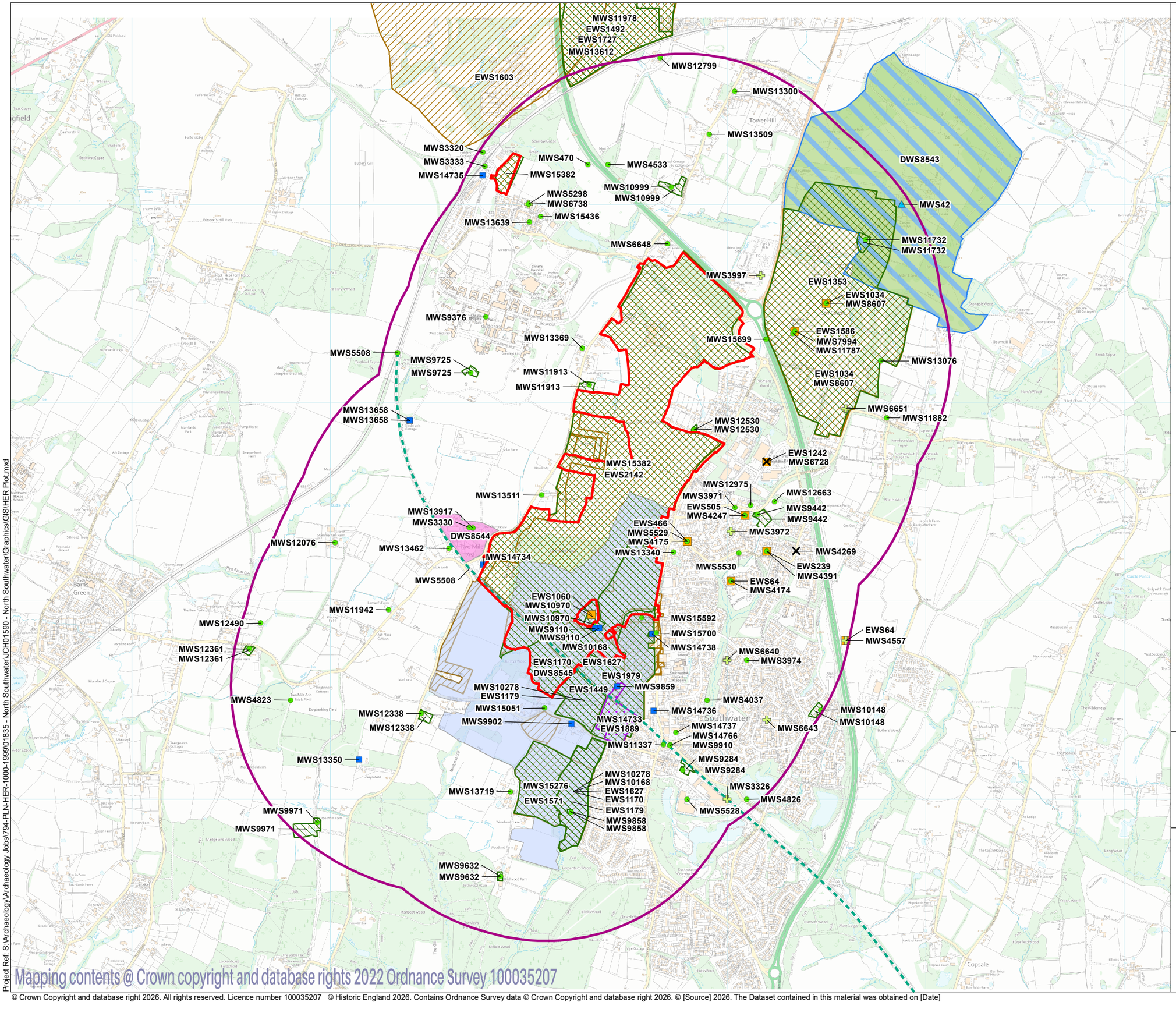


## Legend

- Site Boundary
- Potential BNG Land
- 1km search area

Non-designated Heritage Assets:

- HER Data Lines

### HER Data Points

- Monument
- Building
- Findspot
- Landscape
- Negative Evidence

### HER Data Polygons

- Monument
- Negative Evidence

### Historic Parkscapes

- Denne House and Park

### Archaeological Notification Areas

- Denne Park
- Land to the West of Southwater
- Medieval Moated Site at Watlings Farm, Southwater

Previous Archaeological Work:

- HER Event Points
- HER Event Polygons

N

0 100 200 400 600 800m

Scale at A3: 1:18,000

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Figure 7.2

HER Plot 1km search area Archaeology (data from West Sussex HER)

Project Ref: S:\Archaeology\Archaeology Jobs\794-PLN-HER-1000-1999\01835 - North Southwater\JCH01590 - North Southwater\Graphics\GIS\HER Plot.mxd

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# LAND NORTH-WEST OF SOUTHWATER, HORSHAM

# ENVIRONMENTAL STATEMENT, VOLUME I, CHAPTER 8: ECOLOGY

**FEBRUARY 2026**

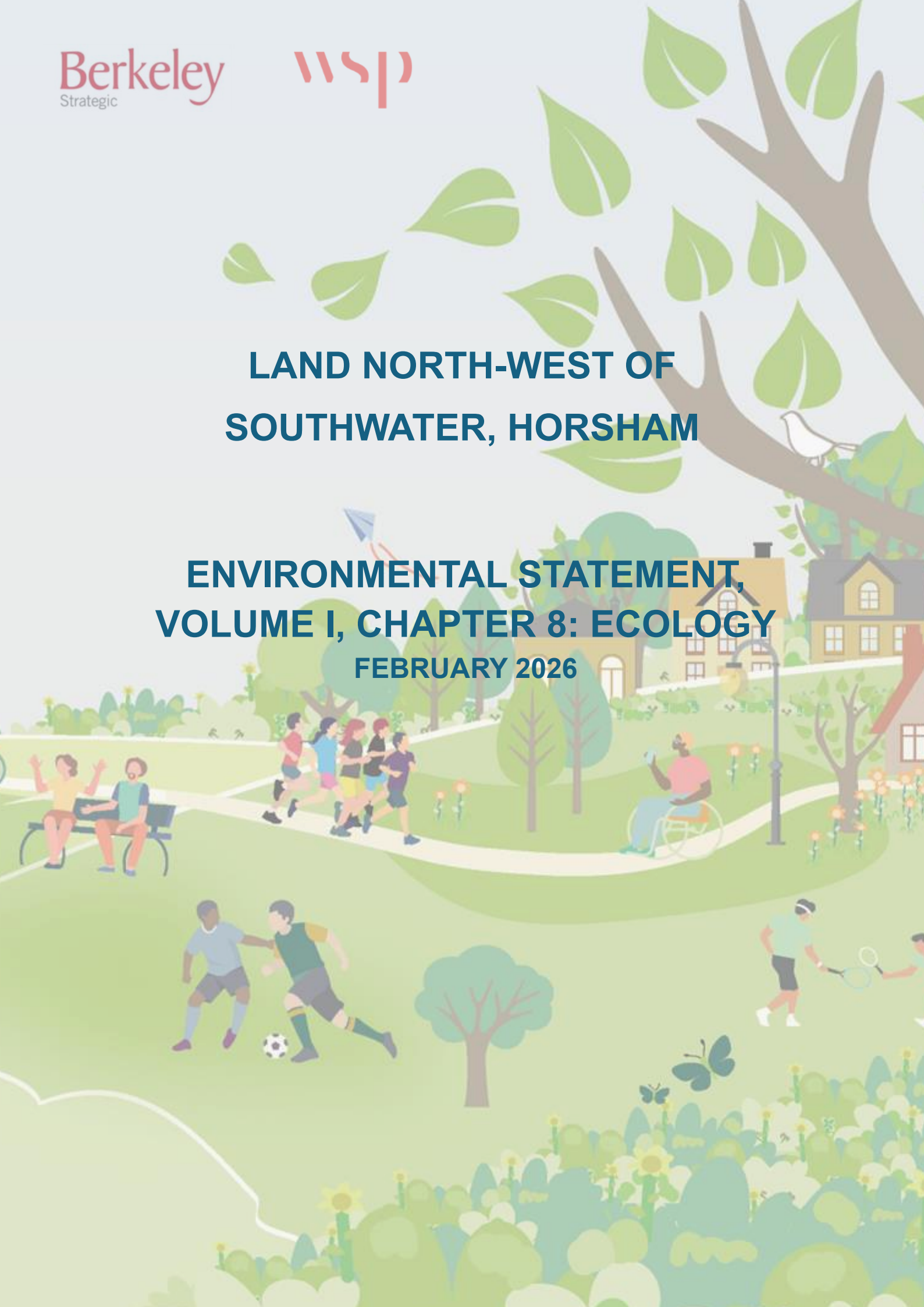

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**Figure 8-1b – 2025 UK Habitat Classification Survey Plan – Main Site South**

**Figure 8-1c – 2025 UK Habitat Classification Survey Plan – Christ's Hospital**

**Figure 8-2 - Hedgerow Survey Results Plan**

**Figure 8-3a - Bat Roost Survey Summary Plan - Main Site North**

**Figure 8-3b - Bat Roost Survey Summary Plan - Main Site South**

**Figure 8-3c - Bat Roost Survey Summary Plan - Christ's Hospital**

**Figure 8-4 - Bat Activity Survey Summary Plan – Main Site**

[redacted]

[redacted]

**Figure 8-6a – 2025 Reptile Survey Summary Plan - Main Site**

**Figure 8-6b – 2025 Reptile Survey Summary Plan - Christ's Hospital**

**Figure 8-7 – 2025 Great Crested Newt HSI and eDNA Survey Summary Plan**

**Figure 8-8 - Ecological Opportunities Plan**

# *APPENDICES*

**Appendix 8-1** Evaluation Criteria;
**Appendix 8-2** 2025 UK Habitat Classification Survey and Target Notes – Main Site;
**Appendix 8-3** 2025 Desk Study Results;
**Appendix 8-4** 2025 Christ's Hospital Ecological Appraisal;
**Appendix 8-5** Hedgerow Survey Report;
**Appendix 8-6** Botanical Survey Report;
**Appendix 8-7** Bat Survey Report;
**Appendix 8-8** 2025 Dormouse Survey Report;
**Appendix 8-9** 2025 Water Vole and Otter Survey Report;
[redacted]
**Appendix 8-11** Wintering and Breeding Bird Assessment;
**Appendix 8-12** 2025 Reptile Survey Report;
**Appendix 8-13** 2025 Christ's Hospital Reptile Survey Report;
**Appendix 8-14** 2025 Great Crested Newt HSI and eDNA Survey Report;
**Appendix 8-15a** Invertebrate Survey Report;
**Appendix 8-15b**Aquatic Macroinvertebrate Survey Report
**Appendix 8-16** Arboricultural Impact Assessment (AIA)

# 8. ECOLOGY

## 8.1. INTRODUCTION

8.1.1. This chapter reports the outcome of the assessment of likely significant effects arising from the Proposed Development upon Ecology in accordance with the "*Town and Country Planning (Environmental Impact Assessment) Regulations 2017"* and the CIEEM "*Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine"* (**Ref 8-1**). This chapter has been prepared by Hankinson Duckett Associates.

8.1.2. The chapter describes the consultation that has been undertaken to inform preparation of the EIA, the scope of the assessment and assessment methodology, and a summary of the baseline information that has informed the assessment. As the EcIA has been carried out in accordance with the *2024 CIEEM guidelines* (the professional standard for ecology), the structure of this chapter and terminology used differs to that employed in the ES chapters prepared by other disciplines. Effort has been made where appropriate however to ensure that any EIA relevant effects are clearly identified in addition to those simply requiring consideration from a policy or legislative perspective only.

8.1.3. A number of effects have been avoided in advance of the assessment and where relevant, these are clearly stated. The assessment reports on the potential for likely significant ecological effects, the additional mitigation measures required to prevent, reduce or offset any significant adverse effects, or further enhance beneficial effects. The conclusions are provided both in terms of the residual effects and whether these are considered significant. Due to the range of ecological receptors, for clarity of reporting these considerations are addressed on a receptor-by-receptor basis.

8.1.4. The assessment of the effects of the Proposed Development on the ecology of the Site has established that the following additional mitigation measures are required in relation to:

- Protection of individuals and populations of protected and notable species [redacted]
- Protection of habitats within and adjacent to the Site, including ancient woodlands (two of which are designated as non-statutory Local Wildlife Sites), veteran trees, hedgerows and waterbodies; and
- Protection of off-site designated areas in the wider area.

8.1.5. Subject to implementation of the inherent and additional avoidance and mitigation measures identified in this chapter, the Proposed Development would not be expected to result in significant adverse effects on either 'key ecological receptors' or 'other important receptors' associated with the Site and **all residual adverse effects would be negligible** at both the construction and operational phases. In fact, through the opportunities for habitat enhancement the Proposed Development would provide opportunity to enhance the habitat resource for the Site resulting in a **potential beneficial effect** for a range of habitats and species.

8.1.6. A number of measures are identified by which the Proposed Development should monitor the protection of the ecology of the Site, including:

- Protection of individuals and populations of protected and notable species [redacted]

- Ecological input into future design stages, including landscape and lighting;
- Implementation of ecological protection measures during construction under a Construction Environmental Management Plan (CEMP);
- Implementation and long-term management and monitoring of newly created and enhanced habitats under a Landscape and Ecological Management Plan (LEMP); and
- Additional monitoring of protected species is expected to be required under the terms of Natural England licences with regard to works affecting bats and Great Crested Newts.

8.1.7. The following environmental enhancement opportunities have been identified:

- Inclusion of habitats of high nature conservation interest within areas of open space;
- Enhancement of existing hedgerows and provision of new opportunities for movement of wildlife within and around the Site;
- Enhancement of retained stream corridors;
- Enhancement and management of woodland habitats within the Site;
- Provision of bat roosting opportunities and bird boxes on new buildings and existing trees;
- Creation of sympathetically designed new wetland habitats as part of the site surface water drainage strategy (SuDS), complementing aquatic habitats in the wider area; and
- Provision of log and brash piles around the edges of landscape planting, scrub, woodland and wetland habitats to provide habitat for invertebrates, amphibians and reptiles.

8.1.8. The remainder of this chapter describes the assessment methodology and the baseline conditions relevant to the assessment, which have been used to reach these conclusions. There is also a summary of the likely significant effects and the additional mitigation measures required to avoid, prevent, reduce or, if possible, offset any likely significant adverse effects, and the likely residual effects and any required monitoring after these measures have been employed. Opportunities for environmental enhancement, where such opportunities exist, are also discussed.

8.1.9. This chapter (and its associated figures and appendices) is intended to be read as part of the wider ES, with particular reference to **Volume 1, Chapter 3: Description of the Proposed Development**, **Chapter 6: Air Quality**, **Chapter 10: Noise and Vibration**, **Chapter 12: Traffic and Transport**, and **Chapter 13: Water Resources, Flood Risk and Drainage**, and the supporting **Flood Risk Assessment and Surface Water Drainage Strategy** (**Volume 2, Appendix 13.1**), and **Arboricultural Impact Assessments** (**Volume 2, Appendices 8.16**).

8.1.10. This chapter is accompanied by the following technical appendices (Volume 2 to this ES):-

- **Appendix 8-1** Evaluation Criteria;
- **Appendix 8-2** 2025 UK Habitat Classification Survey and Target Notes - Main Site;
- **Appendix 8-3** 2025 Desk Study Results;
- **Appendix 8-4** 2025 Christ's Hospital Ecological Appraisal;
- **Appendix 8-5** Hedgerow Survey Report;
- **Appendix 8-6** Botanical Survey Report;
- **Appendix 8-7** Bat Survey Report;
- **Appendix 8-8** 2025 Dormouse Survey Report;
- **Appendix 8-9** 2025 Water Vole and Otter Survey Report;
- [redacted]
- **Appendix 8-11** Wintering and Breeding Bird Assessment;
- **Appendix 8-12** 2025 Reptile Survey Report;

- **Appendix 8-13** 2025 Christ's Hospital Reptile Survey Report;
- **Appendix 8-14** 2025 Great Crested Newt HSI and eDNA Survey Report;
- **Appendix 8-15** Invertebrate Survey Reports;
- **Appendix 8-16** Arboricultural Impact Assessment (AIA)

## 8.2. CONSULTATION, SCOPE, METHODOLOGY AND SIGNIFICANCE CRITERIA

### CONSULTATION UNDERTAKEN TO DATE

8.2.1. **Table 8-1** provides a summary of the consultation activities undertaken in support of the preparation of this assessment.

**Table 8-1 - Summary of consultation undertaken**

| Body / organisation | Individual / stat body / organisation | Meeting dates and other forms of consultation | Summary of outcome of discussions |
|---|---|---|---|
| HDC | Linsey King – Ecology Officer | ES Scoping Response 29 October 2025. | Identified need to consider impacts on Upper Arun SSSI.<br>ES to consider the contribution of the development to Local Nature Recovery Strategy and other local environmental initiatives and priorities.<br>Application to be supported by updated ecological surveys (where applicable) and in accordance with CIEEM guidelines and the mitigation hierarchy.<br>Identified need to consider effects on bats associated with The Mens SAC within or alongside the ES.<br>Identified need to consider connectivity between the two ancient woodland parcels within the Site and appropriate buffers on the woodlands.<br>Sports pitches requested to be greenfield pitches with sympathetic lighting.<br>Requirement to consider effects on all relevant ecological receptors, not just where EIA significant effects may arise. |
| HDC | Linsey King – Ecology Officer | ES Scoping Response 25 November 2025. | Due to phased nature of development, an Overall |

| Body / organisation | Individual / stat body / organisation | Meeting dates and other forms of consultation | Summary of outcome of discussions |
|---|---|---|---|
| | | | Biodiversity Gain Plan will be required. Following which a Phased Biodiversity Gain Plan will be required for each development phase.<br>Buffer required on woodland on northern Site boundary as listed as priority habitat. Buffer a minimum of woodland tree RPAs.<br>Confirmation on buffer of woodland along Downs Link. |
| NatureSpace | NatureSpace | ES Scoping Response 11 December 2025 | Site within red impact risk zone for Great Crested Newts. Therefore high likelihood of Great Crested Newt presence.<br>Requested updated surveys for this species or utilise District Licensing scheme. |
| Natural England | Natural England | ES Scoping Response 10 December 2025 | Confirmed that ecology should be considered within the ES in accordance with CIEEM guidelines. Referred to need to consider cumulative and in-combination effects. Referred to need to consider internationally, nationally and locally designated sites. Referred to need to consider protected species and Priority Habitats and Species and Ancient Woodland and ancient and veteran trees. Identified requirement for Biodiversity Net Gain assessment to support the ES. |

## SCOPE OF THE ASSESSMENT

8.2.2. The scope of this assessment has been established through an ongoing scoping process. Further information can be found in **Volume 1, Chapter 5: Approach to EIA**.

8.2.3. This section provides an update to the scope of the assessment and re-iterates the evidence base for scoping out elements following further iterative assessment.

### ELEMENTS SCOPED OUT OF THE ASSESSMENT

8.2.4. The elements shown in **Table 8-2** are not considered to give rise to risk of likely significant effects, or require avoidance and mitigation measures in keeping with policy and nature conservation

legislation, as a result of the Proposed Development and have therefore not been considered within this assessment:

**Table 8-2 - Elements scoped out of the assessment**

| Element scoped out | Justification |
|---|---|
| Hazel Dormouse | Current knowledge suggests that this species is not present at the Site (see **Volume 2, Appendix 8-8**). |
| Otter | Current knowledge suggests this species is not present at the Site (see **Volume 2, Appendix 8-9**). |
| Water Vole | Current knowledge suggests this species is not present at the Site (see **Volume 2, Appendix 8-9**). |
| Plants | No protected or notable plant species have been recorded (beyond those protected against commercial exploitation only) and significant effects on individual plant species are unlikely (see **Volume 2, Appendix 8-6**). |

## ELEMENTS SCOPED INTO THE ASSESSMENT

### Construction Phase

8.2.5. The following elements are considered to have the potential to give rise to likely significant effects during construction of the Proposed Development, or require mitigation in order to avoid conflict with legislation and / or to accord with material nature conservation considerations under policy and guidance, and have therefore been considered within this assessment:

- Designated sites;
- Habitats;
- Veteran / ancient trees;
- Bats;
- [redacted]
- Birds;
- Reptiles;
- Great Crested Newts; and
- Invertebrates.

### Operation Phase

8.2.6. The following elements are considered to have the potential to give rise to likely significant effects during operation of the Proposed Development, or require mitigation in order to avoid conflict with legislation and / or to accord with material nature conservation considerations under policy and guidance, and have therefore been considered within this assessment:

- Designated sites;
- Habitats;
- Veteran / ancient trees;
- Bats;
- [redacted]
- Birds;

- Reptiles;
- Great Crested Newts; and
- Invertebrates.

## EXTENT OF THE STUDY AREA

8.2.7. The study area for the biodiversity surveys and assessment varies for different ecological features depending on their sensitivity. In a biodiversity assessment, this area is defined as the Zone of Influence (ZOI) and is the area over which ecological features may be subject to significant effects as a result of the development and associated activities.

8.2.8. Three potential ZOIs have been considered:

- The Site and its immediate surrounds;
- Important areas and populations of species within the vicinity of the Site (drawing on the findings of the desk study described below); and
- Areas of international importance potentially affected by the Proposed Development.

8.2.9. Key ecological resources and features (receptors) within the potential ZOIs of the Development have been identified and their value assessed.

## METHOD OF BASELINE DATA COLLATION

8.2.10. In order to provide a robust baseline against which an assessment of the likely ecological effects of the Proposed Development can be made, an ecological desk study, Phase 1 Habitat Survey / UK Habitat Classification survey and specialist ecological surveys have been conducted. The process for establishing the ecological baseline at the Site has comprised the following three main components:

- A desktop search for existing ecological data pertaining to the Site and surrounding area, at a geographical scale sufficient to inform assessments of both the direct and indirect effects of the Proposed Development;
- A Phase 1 Habitat Survey / UK Habitat Classification survey to establish the main habitat types, identify the presence of habitats and / or features likely to support rare, notable, priority and / or protected species, and determine the need for further ecological survey; and
- A suite of further ecological surveys to determine the presence / absence of rare, notable, priority and / or protected habitats and species within areas of the Site potentially affected by the Proposed Development and, if present, establish the location, size and extent of these populations or features.

8.2.11. The following sections provide summary information on each of these stages and brief details of the methodology for each of the ecological studies undertaken. The full methodologies employed in each survey are provided below or in the detailed reports which form **Volume 2, Appendices 8-2 to 8-15** of this chapter.

### DESK STUDY

8.2.12. An ecological desk study was carried out to gather any relevant existing information relating to potential ecological receptors within the Site and the surrounding area. This included searches for information relating to designated sites and existing records of any rare, notable, priority and / or protected species from various sources including the MAGIC online database (**Ref 8-2**), (Sussex

Biodiversity Record Centre (SxBRC) **(Ref 8-44)** and the Natural England online SSSI database (**Ref 8-3**).

8.2.13. Although different habitats and species will be subject to different ZOIs, the standard desk study searches extended at least 2km from the Site boundary in relation to nationally and locally designated sites and rare, notable and / or protected species. For designated sites of international importance, the search area was extended to a radius of at least 13km from the Site. The results of the desk study are provided under the relevant sections below. Full findings of the desk study, including citation documents and location plans for designated sites, are provided in **Volume 2, Appendix 8.3: 2025 Desk Study Results**.

**PHASE 1 HABITAT SURVEY / UK HABITAT CLASSIFICATION SURVEY**

8.2.14. An extended Phase 1 Habitat survey of the Site was initially conducted in 2019. This established initial baseline ecological conditions and identified the need for further surveys where appropriate. The extended Phase 1 Habitat survey was initially extended to cover a previously unsurveyed area of land at Christ's Hospital during 2022. The Site and Christ's Hospital were subsequently subject to updated UK Habitat Classification Surveys in 2025 to update previous surveys. The character and extent of habitats present at the Site were also subject to ongoing review and confirmed during other field surveys carried out during 2021, 2022 and 2025.

8.2.15. The extended Phase 1 Habitat survey and subsequent UK Habitat Classification surveys were conducted in order to establish initial baseline ecological conditions and to identify the need for further surveys where appropriate. The 2019-2022 surveys were conducted in accordance with the "*JNCC 2016"* (**Ref 8-4**) methodology recommended by Natural England, and the 2025 surveys were conducted in accordance with the UK Habitat Classification (**Ref 8-5**) methodology. During the surveys, dominant plant species were noted, along with any uncommon species or species indicative of particular habitat types, but an exhaustive species list was not made. Botanical names follow Stace (**Ref 8-6**) for higher plants.

8.2.16. The results of the latest UK Habitat Classification survey work for the Site are summarised in Section 8.4: Baseline Conditions below, and on **Figures 8-1a to 8-1c** with target notes provided in **Volume 2, Appendix 8.2: 2025 UK Habitat Classification Survey and Target Notes**.

**FURTHER ECOLOGICAL SURVEYS**

8.2.17. During the initial and updated habitat surveys, habitats within the Site were appraised for their potential to support rare and / or protected habitats and species. Together with the results of the desk study, this information was used to determine the need for additional specialist species surveys to inform the EcIA.

8.2.18. Where the results of the desk study and extended Phase 1 habitat survey / UK Habitat Classification Survey indicated the presence and / or potential presence of habitats and species of nature conservation interest within the Site, further ecological surveys were conducted to establish baseline conditions in relation to these habitats / species. These are identified below together with the year(s) in which the surveys were conducted:

- Bat surveys (2021 / 2022[1]);
- Dormouse survey (2021 / 2022 & 2025)
- Otter and Water Vole survey (2021 / 2022 & 2025);
- [redacted]
- Wintering / Breeding Bird surveys (2021 / 2022[1]);
- Reptile survey (2021 / 2022 & 2025);
- Great Crested Newt surveys (2021 / 2022 & 2025);
- Invertebrate survey (2021 / 2022[2]);
- Hedgerow survey (2021 / 2022); and
- Phase 2 botanical survey of woodland and grasslands (2021 / 2022).

8.2.19. Full details of the methodology for each specialist ecological survey undertaken are given in the reports of survey provided in **Volume 2, Appendices 8-4** to **8-15.**

**ASSESSMENT METHODOLOGY**

8.2.20. This chapter of the ES forms an Ecological Impact Assessment (EcIA) carried out in accordance with the CIEEM *"Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine"* (**Ref 8-1**) and is based on ecological desk study information, the findings of a suite of ecological field surveys and the Proposed Development and plans described in **Volume 1, Chapter 3: Description of the Proposed Development**.

8.2.21. The following have been included in the assessment of effects relating to ecology and nature conservation:

- Effects on features of ecological interest supported by the Site and its surrounds; and
- Effects on statutory and non-statutory designated areas occurring in the wider area.

**SIGNIFICANCE CRITERIA**

8.2.22. The process of EcIA undertaken in accordance with the "*2017 Town and Country Planning (Environmental Impact Assessment) Regulations"* and the *CIEEM guidelines* (**Ref 8-1**) provides a mechanism by which to focus investigation on those activities that could potentially generate significant effects on ecological receptors. As such, the consideration of ecological effects represents a targeted assessment, rather than an exhaustive approach.

8.2.23. Two independent factors contribute to the EcIA process: the value of a receptor; and the significance of the effect(s) upon it. Impact assessment is principally driven by the value of an ecological receptor, where valuation provides the basis for determining whether a receptor is of sufficient value for effect(s) upon it to be material in the determination process. Accurate valuation of ecological receptors is therefore critical to delivering this targeted approach.

[1] The suite of bat roost and activity surveys and bird surveys are being updated in 2025 / 2026, with the updated reports to be provided on completion of the surveys.

[2] The invertebrate, hedgerow and Phase 2 botanical survey of woodland and grasslands were not updated in 2025 to inform this assessment as the 2021 / 2022 surveys of the Site for these survey groups are considered valid given there has been no significant change in the character or extent of habitats present within the Site.

8.2.24. The value of ecological receptors (including habitats, ecological communities and individual or groups of species) has been determined on the basis of a combination of factors (**Ref 8-1, 8-7, 8-8**) including: habitat or population size, rarity, conservation status and geographical distribution at different spatial scales. Assigning value is relatively straightforward in the case of designated sites, or undesignated sites meeting designation criteria. However, in most cases evaluation of ecological resources is not straightforward and requires a degree of knowledge, training, experience and professional judgement (**Ref 8-1, 8-7, 8-9**). Following evaluation in accordance with these principles, receptors have been identified as being of value at a given geographical scale, namely: international; UK; national; regional; county; district; local; and Site (within the Site only).

8.2.25. The valuation of ecological receptors has been informed by a range of ecological studies and surveys which together provide a comprehensive ecological baseline for the assessment of the effects of the Proposed Development. These are described in **Section 8.4: Baseline Conditions** below. Whilst protected species are valued on the basis of their current conservation status and biodiversity value, the simple presence of a protected species does not necessarily infer value at the level of protection it receives.

**EFFECT SIGNIFICANCE**

8.2.26. Having identified and valued the status of an ecological receptor, the assessment considers the potential environmental effects which may occur during the construction phase and during the lifetime of the Proposed Development and characterises these effects in terms of their 'significance' on the identified receptor.

8.2.27. The significance of an effect has been assessed based on whether or not the integrity of the habitat or species in that location will be affected. Determining factors include the following considerations:

- Type of effect (direct or indirect);
- The extent and magnitude of the effect (which may be expressed in terms of the proportion of the habitat or population affected but often requires a degree of subjective assessment);
- The duration of the effect (short, medium or long term) and whether the effect is reversible, irreversible, permanent or temporary;
- Whether the effect occurs in isolation or is cumulative; and
- Whether the effect is adverse, negligible or beneficial.

8.2.28. The significance of an effect is determined by appraisal of the above factors, irrespective of the value of the affected receptor. This chapter has been prepared in accordance with CIEEM's 2024 guidelines (**Ref 8-1**) and therefore, unlike the approach used by other technical chapters in this ES (as set out in **Volume 1**, **Chapter 5: Approach to EIA**) this chapter uses CIEEM's definition of an ecologically significant effect which states that:

*"Significance is a concept related to the weight that should be attached to effects when decisions are made. For the purpose of EcIA, 'significant effect' is an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features'…or for biodiversity in general. Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national / local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales from international to local"* (**Ref 8-1**).

8.2.29. Effects may occur at various stages during the Proposed Development, including: (i) Site preparation works such as vegetation clearance and earthworks; (ii) construction and associated activities such as vehicle movements, noise and lighting; and (iii) during the operation of the

Proposed Development.**Table 8.5** identifies the expected effects arising from activities or environmental changes occurring during the various stages of the Proposed Development.

8.2.30. 'Likely Significant Effects' are those effects of the Proposed Development having potential to significantly affect an ecological receptor in a manner that has material implications in the EIA decision-making process, in the absence of any further impact avoidance, reduction, mitigation or compensation measures. Likely Significant Effects are generally those that may potentially arise in the absence of adequate mitigation measures on receptors that are of high local value or low district / borough value or above. Where no significant effects are expected on ecological receptors, these have been scoped out of the assessment (see **Table 8-2**).

8.2.31. Whilst certain ecological effects on receptors may not constitute Likely Significant Effects in the context of the Proposed Development, they may still be important for nature conservation and require consideration and further mitigation in accordance with relevant legislation, as well as in the context of national, regional and local planning policy. These effects are also discussed in Section 8.6 below.

8.2.32. In order to focus on the need for professional judgement, in recent years the CIEEM EcIA guidelines have moved away from a matrix-based approach for identification of ecological impacts and their relevance, or significance, to the decision-making process. Notwithstanding this, to enable completion of **Table 8-6** in a manner consistent with other chapters, a matrix is provided in **Table 8-3** below to allow some continuity of approach to identification of material effects in EIA terms across the ES.

**Table 8-3 - Significance matrix for ecology effects**

| | | Sensitivity of Receptor (identified as value at geographic scale) | | | | | |
|---|---|---|---|---|---|---|---|
| | | **International** | **National** | **County** | **District** | **Local** | **Site** |
| **Impact (indicative)** | **Large** | Major | Major | Major | Major | Moderate | Negligible |
| | **Medium** | Major | Major | Major | Major to Moderate | Minor | Negligible |
| | **Small** | Major | Major | Major to Moderate | Major to Moderate | Minor to negligible | Negligible |
| | **Negligible** | Negligible | Negligible | Negligible | Negligible | Negligible | Negligible |

8.2.33. The following terms have been used to define the significance of the effects identified and apply to both beneficial and adverse effects:

- **Major effect**: where the Proposed Development could be expected to have a substantial improvement or deterioration on receptors;
- **Moderate effect**: where the Proposed Development could be expected to have a noticeable improvement or deterioration on receptors;

- **Minor effect**: where the Proposed Development could be expected to result in a perceptible improvement or deterioration on receptors; and
- **Negligible**: where no discernible improvement or deterioration is expected as a result of the Proposed Development on receptors, including instances where no change is confirmed.

## 8.3. LEGISLATIVE FRAMEWORK, POLICY AND GUIDANCE

### LEGISLATIVE FRAMEWORK

8.3.1. The applicable legislative framework is summarised as follows:

- 1981 Wildlife and Countryside Act (as amended);
- 1997 Hedgerow Regulations;
- 2000 Countryside and Rights of Way Act;
- 2006 Natural Environment and Rural Communities [NERC] Act;
- [redacted]
- 1996 Wild Mammals (Protection) Act;
- 2017 Conservation of Habitats and Species Regulations (as amended);
- 2021 Environment Act; and
- 2000 Water Framework Directive.

8.3.2. Where applicable, details of the specific legislation relating to protected species are provided in the relevant specialist survey reports provided in **Appendices 8-4** to **8-15**.

### POLICY

8.3.3. Relevant planning policy applicable to this assessment includes the following:

- NPPF (paragraphs 187, 188 & 192-195) (December 2024) (**Ref 8-8**);
- Sussex Biodiversity Opportunity Areas (**Ref 8-10**);
- 2022 South East River Basin District Basin Management Plan (**Ref 8-11**);
- Horsham District Planning Framework (excluding South Downs National Park) (November 2015) (**Ref 8-12**);
- Southwater Neighbourhood Development Plan (SNDP) (June 2021) (**Ref 8-13**);
- Horsham District Local Plan 2023-2040 (Regulation 19) (December 2023) (**Ref 8-14**);
- West Sussex Draft Local Nature Recovery Strategy (LNRS) (**Ref 8-40**);
- Weald to Waves Connecting Nature Across Sussex (**Ref 8-42**); and
- Wilder Horshan District Partnership (**Ref 8-43**).

8.3.4. In addition, this chapter has been prepared in accordance with the Government's National Planning Practice Guidance (**Ref. 8-15**).

### GUIDANCE

8.3.5. The following guidance documents have been used during the preparation of this chapter:

- Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System (**Ref 8-16**);
- CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (**Ref 8-1**);
- Bat Surveys for Professional Ecologists: Good Practice Guidelines 4th Edition (**Ref 8-17**);

- BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations (**Ref 8-18**);
- Environment Agency guidance - Pollution prevention for businesses (**Ref 8-19**);
- Natural England and Forestry Commission Standing Advice - Ancient woodland and veteran trees: advice for making planning decisions (**Ref 8-20**);
- [redacted]
- Hazel Dormouse Conservation Handbook, 2nd Edition (**Ref 8-22**);
- Hazel Dormouse Conservation Handbook, 3rd Edition (**Ref 8-23**);
- Guidelines for Selection of Biological SSSIs (**Ref 8-24**);
- Reptile survey - An introduction to planning, conducting and interpreting surveys for snake and lizard conservation (**Ref 8-25**);
- The Herpetofauna Worker's Manual (**Ref 8-26**); and
- Great Crested Newt Mitigation Guidelines (**Ref 8-27**).

8.3.6. Further details are provided in the relevant specialist survey reports provided in **Appendices 8-4** to **8-15**.

## 8.4. BASELINE CONDITIONS

8.4.1. The following sections summarise the findings of the desk study, the Phase 1 Habitat survey / UK Habitat Classification survey and the suite of specialist surveys carried out at the Site. Figures showing the key findings of the specialist surveys (**Figures 8-1** to **8-7**) follow the main text. Full survey results are provided in **Appendices 8-2** to **8-15**.

### DESIGNATED SITES

#### Desk Study

8.4.2. No statutory nature conservation designations pertain to the Site or adjacent land. This is confirmed by information from the MAGIC online database and SxBRC. One non-statutory Local Wildlife Site (LWS) pertains to the Site however, and this is described in **Section 8.4.8** below.

#### Statutory Designated Areas

8.4.3. Four internationally designated areas are located within 13km of the Site boundary. These are:

- The Mens SAC, the closest unit of which is located approximately 10.8km to the south-west of the Site at its closest point. This 203.28ha SAC supports Atlantic acidophilous Beech forests with Holly and sometimes also Yew in the shrub layer, for which this is considered to be one of the best areas in the United Kingdom. The area also supports a significant population of Barbastelle bats;
- The Arun Valley SPA, the closest unit of which is located approximately 12.5km to the south-west of the Site. This 530.42ha SPA supports an internationally important assemblage of wintering birds including Bewick's Swan;
- The Arun Valley SAC, the closest unit of which is located approximately 12.5km to the south-west of the Site and covers an area of 487.48ha within the footprint covered by the Arun Valley SPA designation described above. The qualifying species for which the SAC is designated is the Little Whirlpool Ram's-horn Snail; and
- The Arun Valley Ramsar site, the closest unit of which is located approximately 12.5km to the south-west of the Site. The Arun Valley Ramsar supports populations of wetland invertebrate species listed on the British Red Data book as threatened; a particularly diverse and rich flora,

supporting nationally rare and nationally scarce plant species; and an internationally important assemblage of waterfowl.

8.4.4. Two biological SSSIs are located within 5km of the Site. These are:

- St Leonard's Park Ponds SSSI located approximately 4.2km to the north-east of the Site. This 4ha SSSI supports species-rich ponds along a wooded stream. Fen and marginal vegetation bordering the ponds support diverse botanical communities, and the ponds and adjacent woodland provide habitat for a diverse range of dragonflies and damselflies, including several rare species; and
- St Leonard's Forest SSSI located approximately 4.5km to the north-east of the Site. This 84.5ha SSSI comprises remnants of formerly more extensive deciduous woodland with examples of high forest and a varied ground flora. The presence of 'Atlantic' bryophytes within the SSSI indicate the continuity of woodland cover in this area for the past 5000 years.

In addition, the Upper Arun SSSI is located approximately 8km to the south-west of the Site. This 17.58ha SSSI comprises a 13km stretch of the River Arun which supports an outstanding assemblage of breeding dragonflies.

8.4.5. The northern area of the Site lies within the 3-5km Impact Risk Zones (IRZ) for St Leonard's Park Ponds SSSI and St Leonard's Forest SSSI, as identified from the MAGIC online database. IRZs are used by Natural England to identify development activities in the vicinity of SSSIs, SPAs and SACs which may in the absence of avoidance or mitigation measures adversely affect designated features, thereby requiring planning authorities to consult with Natural England where potentially damaging activities are proposed. Potentially damaging activities identified for the IRZ in which the Site is located do not reference residential development as a type of activity which could potentially have adverse impacts on this designated site. As such it is not expected that the proposal for residential development within the Site would result in any adverse impact on this or any other SSSI and the planning authority would not be expected to consult Natural England in this regard. This is considered further in Section 8.6 below.

8.4.6. There are no other nationally protected areas such as National Nature Reserves (NNRs) or Local Nature Reserves (LNRs) within 2km of the Site.

**Non-statutory Designated Areas**

8.4.7. One LWS is located within the Site, namely Courtland Wood LWS. This 5.8ha LWS supports a relatively small area of ancient semi-natural broadleaved woodland with conifer introductions, which supports a ground flora with a good number of ancient woodland indicators. In addition, five further LWSs lie within 2km of the Site, these include:

- Sparrow Copse LWS is an area of ancient woodland located on the northern boundary of the Christ's Hospital area of the Site. This 8.5ha LWS supports Ash and Maple woodland situated on the slopes of a stream valley. The woodland has a diverse shrub layer and species-rich ground flora;
- Southwater Country Park Complex LWS located approximately 550m to the south-east of the Site. This 25ha LWS comprises a mosaic of habitats which support a number of rare and scarce species;
- High Wood LWS located approximately 530m to the north-west of the Site. This 10.1ha LWS supports an area of ancient woodland with a diverse ground flora situated on steeply sloped ground;

- The Downs Link, Nutham Wood and Greatsteeds Farm LWS located approximately 1.6km to the south-east of the Site. This 35.1ha LWS comprises a range of habitats including a dismantled railway line, herb-rich meadow and ancient semi-natural woodland; and
- Chesworth Farm LWS located approximately 1.8km north-east of the Site. This 41.6ha LWS borders the River Arun and comprises semi-improved neutral grassland, species-rich hedgerows and wetland habitats. It also supports a large number of bird species.

8.4.8. Ancient Woodland is land that has had a continuous woodland cover since at least 1600AD and has only been cleared for underwood or timber production. It can be placed into two categories:

- Ancient semi-natural woodland – woodland that retains a native tree and shrub cover that has not been planted; and
- Ancient replanted woodland – woodland where the original tree cover has been felled and replaced by planting, often with conifers and usually this century.

8.4.9. 79 units of woodland included on Natural England's Ancient Woodland Inventory are located within 2km of the Site. Three of these units are located within the Site, these include:

- Smith's Copse, a 1.0ha block of ancient and semi-natural woodland located in the north-east of the Site;
- Courtland Wood, a 6.1ha block of ancient and semi-natural woodland located in the central west of the Site, covering a similar footprint to Courtland Wood LWS described above; and
- Two Mile Ash Gill, a 0.48ha strip of ancient and semi-natural woodland located on a north-south aligned gill adjoining the southern edge of Courtland Wood.

8.4.10. A further 7.97ha parcel of ancient and semi-natural woodland, associated with the Sparrows Copse LWS described above, borders the northern boundary of the Christ's Hospital area of the Site.

8.4.11. Locations and, where available, citation documents for the designated areas in the vicinity of the Site are included in **Volume 2, Appendix 8.3: 2025 Desk Study Results**. The locations and extents of the designated areas located within and adjacent to the Site are provided in **Figures 8-1a** to **8-1c**.

**Field Surveys**

8.4.12. The findings of the ecological surveys carried out in support of this assessment indicate that, with the exception of Courtland Wood LWS described above, the Site is unlikely to qualify, either wholly or in part, as a statutory or non-statutory designated site on the basis of its nature conservation interest.

## HABITATS

**Desk Study**

8.4.13. Eight areas of deciduous woodland BAP Priority Habitat / Habitat of Principal Importance listed under Section 41 of the 2006 NERC Act have been identified either within or immediately adjacent to the Site boundary from the MAGIC online database. These include:

- Courtland Wood and the adjoining Two Mile Ash Gill, discussed above;
- Smith's Copse, discussed above;
- Two strips of woodland adjoining the north and south sides of the Downs Link public right of way passing east-west through the south of the Site;
- A block of woodland and strips of woodland on two adjoining field boundaries in the north-east of the Site; and

- An off-site woodland parcel associated with Sparrows Copse LWS located on the northern boundary of the Christ's Hospital area of the Site, discussed above.

8.4.14. A plan showing the locations of the above woodlands is provided in **Volume 2, Appendix 8.2: 2025 UK Habitat Classification Survey and Target Notes – Main Site** and **Figures 8-1a** to **8-1c**. No further BAP Priority Habitats / Habitats of Principal Importance were identified within or immediately adjacent to the Site during the desk study.

8.4.15. The West Sussex LNRS (**Ref 8-40**) identifies areas of the Site as being of importance for biodiversity or having potential for enhancement to be of importance for biodiversity. These include:

- Courtland Wood and the adjoining Two Mile Ash Gill (discussed above) which is:

  identified as an 'Area of Particular Importance for Biodiversity' (APIB) and aimed for enhancement of ancient woodland and wet woodland; and
  The surrounding land to the north and west of Courtland Wood and east, south and west of Two Mile Ash Gill is identified as an 'Area that Could become Important for Biodiversity' (ACIB) for the creation of new woodland.

- Smith's Copse (discussed above) which is identified as an APIB and aimed for enhancement of ancient woodland;
- The two areas of deciduous woodland identified as Habitats of Principal Importance in the north-east of the Site which are:

  Identified as ACIB and partly aimed for the enhancement of wet woodland; and
  The surrounding land to the north-west of one of these parcels is identified as an ACIB for the creation of new woodland.

8.4.16. The Site is situated within the 5km wider engagement area of the Weald to Waves corridor which stretches 100m miles across Sussex, using the Ashdown Forest, rivers and the South Downs to maximise habitat connectivity. Within this 5km engagement area, the project aims to connect with landowners to establish an extensive nature recovery corridor (**Ref 8-42**).

8.4.17. Wilder Horsham District (WHD) is a partnership between Sussex Wildlife Trust and Horsham District Council to create Nature Recovery Networks to help wildlife thrive, raise awareness in communities and maximise opportunities that protecting and enhancing wildlife brings for climate change mitigation and adaptation (**Ref 8-43**).

**Field Surveys**

8.4.18. The results of the UK Habitat Classification survey are presented in map form on **Figures 8-1a to 8-1c**. A brief non-technical description of the Site's habitats and features is given below. Numbers in brackets refer to the Target Note descriptions for each area provided in **Volume 2, Appendix 8.2: 2025 UK Habitat Classification Survey and Target Notes – Main Site**.

8.4.19. In general terms, the Site consists of a series of arable fields, semi-improved grassland fields and improved grassland fields bordered by a network of hedgerows, treelines and fencing. Other habitats include small areas of mixed woodland, deciduous woodland and tall ruderal vegetation. Two farmyards with associated agricultural buildings are located within the Site. A stream, namely Marlpost Gill, flows in a southerly direction through the western part of the Site and a second unnamed stream flows south-east to north-west through the north of the main Site. A number of wet

and dry ditches are also present below hedgerows and around woodland parcels across the Site. A number of PRoWs also pass through the Site.

**Woodland**

8.4.20. Ten small areas of woodland are present within and / or immediately adjacent to the Site. These comprise:

- A young mixed woodland along the northern boundary of the Site (1). Species present include Pedunculate Oak, Wild Cherry, Sycamore, Larch, Pine and Cedar with a Blackthorn, Hawthorn, and Field Maple understorey. The ground flora below is relatively sparse and dominated by grasses including Wood False-brome and Rough Meadow-grass with occasional Lords-and-Ladies;
- A small woodland copse comprising a mix of mature and semi-mature trees adjacent to an off-site residential property in the north of the Site (2). Species present include Pedunculate Oak, Ash, Wild Cherry, Scots Pine and Common Lime with Hawthorn, Rhododendron, Elder and Bramble below. The ground flora is dominated by tall ruderal vegetation and coarse grasses including Common Nettle, Cow Parsley, Broadleaved Dock, False Oat-grass, Cock's Foot and Common Agrimony;
- Narrow woodland shaws bisect the grassland field in the north of the Site (4, 6 and 7), joining with a larger area of off-site woodland to the south. Species include Sycamore, Pedunculate Oak, Ash, Field Maple, Hybrid Black Poplar, Wild Cherry, Hazel coppice, Elder, Hawthorn, Blackthorn, Hornbeam and Holly. The westernmost parcel (4) also supports Scots Pine. Ground flora species include Dog's Mercury, Bluebell, Garlic Mustard, Pendulous Sedge, Ground-ivy, Lords-and-Ladies, Yellow Archangel, Common Nettle and Bramble;
- A small band of planted semi-mature woodland in the north-west of the Site (12), dominated by Pedunculate Oak with occasional Hornbeam, Pine and Blackthorn;
- Smith's Copse, a small area of dense broadleaved woodland listed on Natural England's Ancient Woodland Inventory (42). Tree species present include Ash and Pedunculate Oak and there is a well-developed shrub layer including Hazel coppice, Holly, Hawthorn, Midland Hawthorn, Blackthorn, Crab Apple and Field Maple. Dense areas of Cherry Laurel are also present in the southern area. The ground flora comprises a mix of woodland species, including 13 ancient woodland indicator species such as Lords and Ladies, Wild Garlic, Bluebell, Wood Anemone, Wood Melick, Herb Robert, Wood Avens, Wood False-brome, Wood Sedge and Pendulous Sedge. The Phase 2 botanical survey provided in **Volume 2, Appendix 8.6 Botanical Survey Report** includes a detailed assessment of this woodland;
- Courtland Wood, an area of broadleaved woodland listed on Natural England's Ancient Woodland Inventory and listed as a Local Wildlife Site (46). Mature trees within the woodland include Pedunculate Oak, Ash, Silver Birch, Wild Cherry and Small-leaved Lime with an understorey of Hazel coppice, Holly, Elder, Field Maple, Small-leaved Lime, Apple and Midland Hawthorn. The ground flora comprises a varied mix of species including 24 ancient woodland indicator species such as Wood Speedwell, Bluebell, Goldilocks Buttercup, Wood Sorrel, Wood Millet, Wood Melick, Herb Robert, Wood Anemone, Wood Avens, Bush Vetch, Wild Garlic, Pendulous Sedge, Yellow Archangel, Dog's Mercury, Stinking Iris and Three-nerved Sandwort. The Phase 2 botanical survey provided in **Volume 2, Appendix 8.6** includes a detailed assessment of this woodland;
- A narrow broadleaved woodland shaw (68) extends southwards from Courtland Wood and lines the banks of Marlpost Gill. This woodland is also listed on Natural England's Ancient Woodland

Inventory. The species composition is similar to that described above for Courtland Wood (46) and the woodland supports at least 12 ancient woodland indicator species. The Phase 2 botanical survey provided in **Volume 2, Appendix 8.6** includes a detailed assessment of this woodland;

- Kirsty's Wood, an area of off-site broadleaved woodland bordering a section of the southern Site boundary (77). The woodland is dominated by mature Ash and Pedunculate Oak with an understorey of Hazel and Holly with Rhododendron. Ground flora includes Wild Garlic, Bluebell, Wood Melick, Yellow Archangel, Dog's Mercury, Wood Speedwell, Greater Stitchwort and Bramble. A shallow, slow flowing stream with earth banks flows through the woodland; and
- Sparrow Copse, an area of broadleaved deciduous woodland forming the northern boundary of Christ's Hospital area of the Site (8). This off-site woodland is dominated by Ash and Field Maple with a Hazel understorey.

**Scattered Trees**

8.4.21. A 14 mature trees across the Site have been identified as supporting veteran features and are likely to be considered to be of 'veteran' status in the context of paragraph 180 of the NPPF (**Ref 8-8**) and Natural England Standing Advice (**Ref 8-20**). These veteran trees are widespread across the Site, generally occurring within hedgerows.

8.4.22. The locations of the veteran trees within the Site are identified within the Arboricultural Impact Assessment (**Appendix 8.16: Arboricultural Impact Assessment**).

8.4.23. The majority of scattered trees within the Site are associated with hedgerows along field margins. These include several mature and veterans as well as younger trees. Species present are commonly Pedunculate Oak and Ash with Wild Service Tree, Field Maple, Sycamore and Willow also present on a more occasional basis.

**Hedgerows**

8.4.24. The majority of field boundaries within the Site are formed by hedgerows. These are mostly intact and species-rich, with the most frequently encountered species including Hawthorn, Blackthorn, Dogwood, Hazel, Field Maple, Ash, Pedunculate Oak, Dog-rose and Bramble. Additional species recorded within the hedgerows include Elder, Holly, Honeysuckle, Willow, Sycamore, Horse Chestnut, Common Lime, Cypress sp., Small-leaved Lime, Wild Privet, Apple, Wayfaring Tree and Field-rose.

8.4.25. A number of the hedgerows have associated dry or seasonally wet ditches along their length and these are described further below. Trees occur along many of the hedgerows as described above.

8.4.26. Exceptions to the species-rich hedgerows described above, include:

- A managed hedgerow bordering the northern side of a farmyard track comprising Hawthorn, Field Maple and Elder (14);
- A managed intact, species-poor hedgerow bordering an arable field to the east and south (22). The hedgerow is dominated by Hawthorn and Blackthorn with occasional Hazel, Dog-rose and Bramble; and
- A defunct species-poor hedgerow located along the southern Site boundary dominated by Bramble and Rose species with occasional Elder and Hawthorn (49).

8.4.27. A total of 41 of the hedgerow sections within the Site meet criteria for consideration as 'important' under Paragraphs 6-10 Wildlife and Landscape Criteria of the *1997 Hedgerow Regulations* (**Ref 8-**

**41**). Further information relating to each hedgerow is provided in **Volume 2, Appendix 8.5: Hedgerow Survey Report** .

**Tall Ruderal Vegetation**

8.4.28. Tall ruderal vegetation is scattered within fields, ditches and farmyards across the Site (e.g. 2, 11, 36, 45, 67) with dominant species including Common Nettle, Creeping Thistle and Spear Thistle. Areas within the Site dominated by tall ruderal vegetation include:

- A steep sided earth bund between a grassland field and farmyard in the north of the Site with species including Common Nettle, Broadleaved Dock, Creeping Thistle, Spear Thistle and Bristly Ox-tongue; and
- A band of tall ruderal vegetation bordering the southern boundary of a field in the central area of the Site.

**Grassland**

8.4.29. A series of fields comprising species-poor agriculturally modified grassland are present across the main Site (3, 5, 15, 18, 22, 24, 26, 27, 41, 48, 50, 52, 56, 58, 59, 61, 63, 66, 72, 73) and the Christ's Hospital Site comprises the western part of a wider species-poor agriculturally modified grassland field (3). These areas are predominantly managed by cutting and / or cattle grazing and comprise a generally low diversity of species including Yorkshire Fog, Meadow Foxtail, Soft Brome, Smooth Meadow-grass, Rough Meadow-grass, Perennial Rye-grass, Sweet Vernal-grass, Smaller Cat's tail, Barren Brome and Cock's Foot. Forbs within these grasslands are typically occasional to rare, with species recorded including Meadow Buttercup, Bulbous Buttercup, Germander Speedwell, Cut-leaved Cranesbill, White Clover, Creeping Cinquefoil, Lesser Stitchwort, Common Sorrel, Curled Dock, Hogweed, Common Vetch, Common Field-speedwell, Common Mouse-ear, Dandelion, Broadleaved Dock, Prickly Sow-thistle and Common Nettle.

8.4.30. The focussed Phase 2 botanical survey of the northern-most of these fields, identified as being the highest quality of the grassland habitats present, found the botanical interest of the grassland to be fairly limited, with the grassland generally being classified as 'Species-poor Semi-Natural' grassland and as such none of the grasslands qualify for consideration as a BAP Priority Habitat or a 2006 NERC Act Habitat of Principal Importance. Details of the Phase 2 botanical survey and further descriptions of these grasslands are provided in **Volume 2, Appendix 8.6: Botanical Survey Report**.

**Arable Land**

8.4.31. A number of fields within the Site are under arable cultivation (23, 28, 29, 31, 34, 39, 40, 43, 45, 53). These fields typically have relatively species-rich modified grassland field margins, ranging in width from 1m-3m, including species such as Yorkshire Fog, Barren Brome, Rough Meadow-grass, Cock's Foot, Meadow Foxtail, Annual Meadow-grass, Shepherd's Purse, Scentless Mayweed, Common Mouse-ear, Groundsel, Creeping Buttercup, Germander Speedwell, Thyme-leaved Speedwell, Red Dead-nettle, Cut-leaved Cranesbill, Scarlet Pimpernel, Field Pansy, Common Chickweed, Garlic Mustard, Hogweed, Common Nettle, Broadleaved Dock, Spear Thistle and Creeping Thistle.

**Waterbodies**

8.4.32. Waterbodies within and adjacent to the Site include the following:

- Marlpost Gill (46, 68, 71) enters the Site at the north-western corner of Courtland Wood (46) then flows southwards through the Site, exiting the Site into the off-site Kirsty's Wood (77). The stream is very narrow (<50cm) and generally shallow (approximately 5cm) with some deeper pools and has a silt substrate and very slow flow. The earth banks are steep in places, with less steep areas heavily trampled where accessible by Cattle. Heavy shading below woodland and hedgerows has resulted in an absence of aquatic and marginal vegetation, with flora present along the stream banks dominated by Wild Garlic and Bluebell.
- A slow flowing watercourse, approximately 50cm to 100cm wide with shallow earth banks and a water depth of approximately 10cm at the time of survey flows through woodland shaws in the north of the Site (4, 6 and 7). Due to heavy shading no aquatic vegetation is present however the banks are bordered by occasional Pendulous Sedge and Wavy Bittercress and a rare presence of Cuckoo Flower.
- One pond holding water at the time of survey is located within the Site. This comprises a small, heavily shaded shallow pond with gently sloping earth banks located adjacent to Marlpost Gill in the south of the Site (74).
- In addition, small seasonal ponds are present along the stream in the north of the Site (4), at the junction of three hedgerows in the south-east of the Site (55), within Smith's Copse in the north of the Site (42), associated with a ditch below a hedgerow in the central area of the Site (30), and along Marlpost Gill in the south of the Site (69); and
- Narrow ditches are present below hedgerows across the Site, which were predominantly dry at the time of survey. Vegetation within the majority of the ditches comprises tall ruderal vegetation including Common Nettle, Great Willowherb and Cleavers. Other species including Water Mint, Pendulous Sedge, Soft Rush and Hemlock Water-dropwort are occasionally present (8, 10, 13, 18, 20, 21, 22, 24, 25, 28, 30, 36, 37, 38, 39, 40, 45, 46, 48, 51, 52, 53, 62, 62, 64, 75).

**Other Habitats**

8.4.33. A hardstanding track leads to a farmyard from Two Mile Ash Road in the north of the Site (14). The farmyard comprises hardstanding supporting a number of agricultural buildings associated with a dairy farm (11). In addition, a collection of agricultural buildings associated with Cattle farming are located within the farmyard of Great House Farm (67) in the south-east of the Site. A further agricultural barn is located within a field in the west of the Site (28). Areas of bare ground and tall ruderal vegetation are present around the buildings.

8.4.34. The Downs Link, a Public Right of Way and cycle route comprising bare ground is located atop a steep sided former railway embankment crossing the southern area of the Site (70). Narrow grassland margins are present to either side of the footpath supporting species including Soft Brome, False Wood-brome, Hogweed, Greater Stitchwort, Common Ivy, Germander Speedwell, Cleavers, Wood Dock, Cow Parsley, Common Nettle and Ribwort Plantain.

8.4.35. A PRoW comprising bare ground bordered by narrow grassland margins bisects the northern area of the Site (33).

## BATS

**Desk Study**

8.4.36. SxBRC provided 331 records of twelve bat species occurring within 2km of the main Site, and the Christ's Hospital area. Species include Common Pipistrelle, Soprano Pipistrelle, Nathusius's Pipistrelle, Barbastelle, Brandt's bat, Daubenton's bat, Bechstein's Bat, Whiskered bat, Natterer's

bat, Brown Long-eared bat, Serotine and Noctule. Records were also provided for unidentified *Pipistrellus*, *Myotis* and *Plecotus* species within the area. Two bat records pertain to locations immediately adjacent to the Site including a record of six Brown Long-eared bats within a property immediately adjacent to the north-eastern Site boundary dating from 2005 and a record of an unidentified Long-eared bat immediately adjacent to the south-eastern Site boundary dating from 2011.

8.4.37. A review of granted European Protected Species applications listed on MAGIC, shows five licences for Common Pipistrelle and / or Brown Long-eared bat within 2km of the Site boundary. The most recent record, dating from 2017, relates to a licence for both Common Pipistrelle and Brown Long-eared bats located within a property along Two Mile Ash Road approximately 100m to the west of the Site.

**Field Survey**

8.4.38. A number of confirmed and possible bat roosts have been identified within individual trees (T) and buildings (B) within and adjacent to the Site during the Phase 2 bat roost survey work. These are:

- B12 supports a confirmed occasional / transitory roost for low numbers of Common Pipistrelle and an individual Soprano Pipistrelle. In addition, B12 supports a probable occasional / transitory roost for an individual Brandt's bat;
- Tree 216 supports a confirmed occasional / transitory roost for low numbers of Common Pipistrelle and Soprano Pipistrelle. In addition, Tree 216 supports a probable occasional / transitory roost for an individual Bechstein's bat;
- Tree 188 supports probable occasional / transitory roosts for two Common Pipistrelle bats and an individual Soprano Pipistrelle;
- B6, B16 and Trees 20 and 207 support confirmed / probable occasional / transitory roosts for two Common Pipistrelle bats;
- Trees 95, 217 and 349 support confirmed / probable occasional / transitory roosts for individual Common Pipistrelle bats; and
- Trees 53 and 254 support probable bat roosts for unidentified bat species.

8.4.39. No further bat roosts were identified within the Site.

8.4.40. In addition to the bat roosts described above, a number of other buildings and trees have been identified as having low or higher potential to support roosting bats but have not been found to support active roost sites to date. The locations of the confirmed and possible bat roosts, and the features having potential to support roosting bats are shown in **Figures 8-3a** and **8-3c**.

8.4.41. The suite of bat activity transect, automated and dusk / dawn emergence surveys confirmed the presence of at least nine bat species using the Site on at least an occasional basis for foraging and commuting. The majority of activity related to relatively common and widespread species including Common Pipistrelle and Soprano Pipistrelle bats. The majority of Common Pipistrelle and Soprano Pipistrelle activity was associated with the Downs Link crossing east-west through the south of the Site and the woodland belts in the north of the Site. Noctule bats, *Myotis* sp., Brown Long-eared bat, Serotine and Leisler's bats were also recorded from similar habitats on a less frequent basis. In addition, Barbastelle and Nathusius' Pipistrelle bat were recorded using the survey area during the automated detector surveys.

8.4.42. A summary of bat activity recorded during the bat activity transect surveys is provided in **Figure 8-4** and the full findings of the bat survey work are provided in the Bat Survey Report provided in

**Volume 2, Appendix 8.7: Bat Survey Report** and the Christ's Hospital Ecological Appraisal provided in **Volume 2, Appendix 8.4: 2025 Christ's Hospital Ecological Appraisal**.

## DORMOUSE

### Desk Study

8.4.43. SxBRC provided 25 records of Dormice occurring within 2km of the main Site, and the Christ's Hospital area. The closest records to the Site include four records within Oakhurst Business Park, located approximately 20m east of the Site, beyond Worthing Road. The most recent of these records dates from 2024.

8.4.44. A review of granted European Protected Species applications listed on MAGIC, shows four licences for Hazel Dormouse within 2km of the Site boundary. The most recent granted EPS licence, dating from 2020, is located approximately 1.8km to the south-east of the Site.

### Field Survey

8.4.45. The areas of grassland and arable land that dominate the Site generally comprise unsuitable habitats for Dormice. Areas of more suitable Dormouse habitat do occur throughout the Site however within the areas of broadleaved woodland and the mature hedgerow network where many of the species present produce fruits / nuts and flowers and could support invertebrate populations of value to foraging Dormice throughout the year.

8.4.46. Notwithstanding the presence of suitable habitat and records of this species provided for the Site surrounds dating from as recently as 2024, no Dormice or evidence of Dormice was recorded during the nest tube surveys. It is therefore considered that Dormice are highly likely to be absent from the Site at the time of survey.

8.4.47. The full findings of the Dormouse surveys conducted at the Site are contained in the Dormouse Survey Report included as **Volume 2, Appendix 8.8: 2025 Dormouse Survey Report.**

## OTTER

### Desk Study

8.4.48. No records of Otter were provided for the desk study area due to the sensitivity of the status of this species within Sussex. It is understood that there are no recent breeding Otter records and very few resident Otters in Sussex; however signs of Otter activity have been recorded in the majority of Sussex river catchments.

### Field Survey

8.4.49. No evidence of Otter was identified during the Otter surveys. The watercourses associated with the Site generally provide unsuitable habitat for Otter due to very low water levels and lack of food source.

8.4.50. The full findings of the Otter survey conducted at the Site are contained in the survey report included as **Volume 2, Appendix 8.9: 2025 Water Vole and Otter Survey Report.**

## WATER VOLE

### Desk Study

8.4.51. SxBRC provided 2 records of Water Vole occurring within 2km of the main Site, and the Christ's Hospital area. The closest record to the Site pertains to an area in the vicinity of the River Arun, approximately 200m west of the Site, dating from 1983.

### Field Survey

8.4.52. No evidence of Water Vole was identified during the Water Vole surveys. The watercourses associated with the Site generally provide sub-optimal habitat for Water Vole, due to shallow water levels, seasonal drying out and heavy shading by bankside vegetation resulting in a lack of suitable marginal and aquatic vegetation for foraging.

8.4.53. The full findings of the Water Vole survey conducted at the Site are contained in the survey report included as **Volume 2, Appendix 8.9: 2025 Dormouse Survey Report.**

## BIRDS

### Desk Study

8.4.59. SxBRC provided 3402 records of 63 bird species occurring within 2km of the main Site, and the Christ's Hospital area. These include species specially protected under Schedule 1 of the 1981 Wildlife and Countryside Act (as amended) such as Red Kite, Barn Owl and Kingfisher, and birds included on the RSPB's Birds of Conservation Concern Red and Amber lists (**Ref 8-28**).

### Field Survey

*Breeding bird survey*

8.4.60. A total of 36 bird species were recorded from the Site during the breeding bird survey, of which 29 are considered to be either breeding within the Site or hold a significant proportion of a breeding territory in association with the Site.

8.4.61. No species included on Annex 1 of the EU Birds Directive were recorded during the breeding bird survey.

8.4.62. The only Schedule 1 bird species recorded at the Site during the breeding bird survey was Barn Owl; this species was recorded during the dusk visit but in view of limited observations of this species being made during the extensive bat survey work carried out at the Site, Barn Owl was not considered to be breeding within or immediately adjacent to the Site.

8.4.63. Eight of the species recorded breeding or holding a significant portion of a breeding territory within the Site are currently included in the Birds of Conservation Concern (BoCC) Red or Amber lists (**Ref 8-28**). These are:

- Red listed species: House Sparrow and Greenfinch; and
- Amber listed species: Dunnock, Song Thrush, Tawny Owl, Whitethroat, Woodpigeon and Wren.

8.4.64. Dunnock, Song Thrush and House Sparrow are listed as priority species on the UKBAP and as Species of Principal Importance under Section 41 of the 2006 NERC Act. This makes these common and widespread a material consideration in the planning process.

*Wintering bird survey*

8.4.65. A total of 30 bird species were recorded directly from habitat associated with the Site during the wintering bird survey (rather than simply flying over).

8.4.66. No species included on Annex 1 of the EU Birds Directive were recorded using the Site during the wintering bird survey.

8.4.67. The only Schedule 1 bird species recorded at the Site during the wintering bird survey was Redwing; this species included on Schedule 1 as it is a very rare breeder in the UK despite being a relatively abundant migrant during the winter months. An estimated 750,000 Redwing visit Britain during the winter months with only 30-50 pairs remaining to breed. Redwing were not recorded at the Site during the breeding bird survey.

8.4.68. Eleven of the species recorded using the Site during the wintering bird survey are currently included in the Birds of Conservation Concern (BoCC) Red or Amber lists (**Ref 8-28**). These are:

- Red listed species: House Sparrow, Song Thrush, Linnet and Starling; and

- Amber listed species: Dunnock, Song Thrush, Grey Wagtail, Redwing, Starling, Woodpigeon and Wren.

8.4.69. Dunnock, Song Thrush, Linnet, Starling and House Sparrow are listed as priority species on the UKBAP and as Species of Principal Importance under Section 41 of the 2006 NERC Act. This makes these common and widespread species a material consideration in the planning process.

*Summary*

8.4.70. Of all the birds considered to be breeding at the Site the species of greatest nature conservation interest in terms of UK population, conservation status and number of territories associated with the Site is Tawny Owl, which has an estimated UK breeding population of 50,000 territories (**Ref 8-29**). Tawny Owl were recorded in association with hedgerow and woodland habitat in the south of the Site during the dusk survey and during the extensive suite of bat survey work. It is expected that one breeding pair is present at the Site which equates to 0.002% of the UK breeding population.

8.4.71. Of the red listed bird species recorded wintering at the Site, in terms of British population, conservation status and number of wintering individuals supported by the Site, the species of highest nature conservation interest is Linnet, with the Site being used by up to 0.0029% of the UK's wintering population of this species. Despite the rapid decline of its population, Linnets remain relatively common and widespread with a UK population of around 860,000 wintering individuals. Up to 25 Linnet were recorded during the wintering bird survey visits although this number was often much lower.

8.4.72. The Site is dominated by relatively intensively farmed fields which in general are of low value to breeding birds, and habitats of higher ornithological interest including woodland, hedgerows, scattered mature trees, scrub and wetlands such as ponds form a minority of the habitat present. The habitats provided by the Site are however abundant in the wider area and all species recorded breeding or wintering at the Site are generally relatively common and widespread in Britain, with the Site supporting only a very small proportion of the British breeding or wintering population of any one species. The Site does not meet the requisite score for qualification as a candidate SPA or SSSI and is highly unlikely to qualify, either wholly or in part, as a LWS.

8.4.73. The full results of the breeding and wintering bird surveys are presented in the Wintering and Breeding Bird Assessment included as **Volume 2, Appendix 8.11: Wintering and Breeding Bird Assessment.**

## REPTILES

### Desk Study

8.4.74. SxBRC provided 450 records of reptiles occurring within 2km of the main Site, and the Christ's Hospital area, including records for Slow-worm, Grass Snake, Adder and Common Lizard. Eight reptile records relating to Grass Snake and Common Lizard were provided for a location on the Downs Link within the south of the Site, dating from 2011.

### Field Survey

8.4.75. No reptiles were recorded within the main Site during the 2025 reptile survey. However, very low populations of Grass Snake and Common Lizard were recorded within the main Site in 2022, with a maximum count of one adult Common Lizard recorded within the north of the Site during the survey. No Grass Snakes were recorded during the course of the reptile survey visits however an incidental

record of one adult Grass Snake was made within the main Site during the course of other field surveys being conducted by HDA in June 2022.

8.4.76. A small population of Grass Snake was recorded within the Christ's Hospital land during the dedicated survey of this area in 2025, with a maximum count of one juvenile Grass Snake recorded in the north of the area during the survey. In addition, a small population of Slow-worm was recorded within the Christ's Hospital land during the dedicated survey of this area in 2022, with a maximum count of one adult Slow-worm recorded in the east of the area during the survey.

8.4.77. Although the majority of the Site comprises sub-optimal reptile habitat, being dominated by managed farmland, limited areas of suitable reptile habitat are widespread throughout the Site in the form of woodland, hedgerow bases, riparian habitats and the network of field margins of rough grassland, ditch, tall ruderal vegetation and scrub habitats. As such it is conceivable that Grass Snake, Common Lizard and Slow-worm could occur in very low numbers in areas of suitable habitat throughout the Site.

8.4.78. The full results of the reptile survey are contained in the survey reports included as **Appendices 8-12** and **8-13** and are summarised in **Figures 8-6a** and **8-6b.**

## GREAT CRESTED NEWTS

### Desk Study

8.4.79. SxBRC provided 61 records of Great Crested Newt occurring within 2km of the main Site, and the Christ's Hospital area. One record relates to the presence of one adult Great Crested Newt at a location on the south-eastern boundary of the Site to the south of Great House Farm, dating from 2011.

### Field Survey

8.4.80. There are several waterbodies within the Site that provide suitable breeding habitat for Great Crested Newts, and habitats within the Site such as hedgerow bases, woodland, grassland and scrub provide suitable terrestrial habitat for Great Crested Newts. Great Crested Newt eDNA surveys conducted in 2025 included all accessible waterbodies within 300m of the Site and two Waterbodies (Waterbodies 9 and 35) within the wider area return positive results for Great Crested Newt eDNA. It is therefore expected that at least low numbers of Great Crested Newts routinely use the Site in the vicinity of Waterbodies 9 and 35 during terrestrial phases.

8.4.81. The full results of the Great Crested Newt eDNA and HSI surveys are presented in the Great Crested Newt HSI and eDNA Survey report included as **Volume 2, Appendix 8.14: 2025 Great Crested Newt HIS and eDNA Survey Report** and summarised in **Figure 8-7.**

## INVERTEBRATES

### Desk Study

8.4.82. SxBRC provided 1355 records of invertebrates within 2km of the main Site, and the Christ's Hospital area, relating to 99 protected or notable invertebrate species for the desk study area. These include a number of species with a limited distribution included on Nationally Notable and Red Data lists. The only records pertaining to the Site itself relate to 7 records of Brown Hairstreak butterfly, dating from 2004, 2006, 2007 and 2024. Brown Hairstreak is declining nationally and is protected against sale only through its inclusion on Schedule 5 of the 1981 Wildlife and Countryside Act (as amended). The species is also identified as a Species of Principal Importance under Section 41 of

the 2006 NERC Act and is listed as Vulnerable (RDB 2). A taxon is Vulnerable when it is considered to be facing a high risk of extinction in the wild in Great Britain.

8.4.83. Records of further protected invertebrates provided for the wider desk study area include:

- One record of Medicinal Leech which is fully protected under UK legislation under Schedule 5 of the 1981 Wildlife and Countryside Act (as amended). Medicinal Leech is internationally protected through its inclusion on the 1992 EC Habitats Directive: Annex V which through the 2017 Conservation of Habitats and Species Regulations (as amended) provides for the setting up of SACs where key populations exist and is regulated under the Bern Convention: Annex III.
- 17 records of Stag Beetle which is protected against sale only through its inclusion on Schedule 5 of the 1981 Wildlife and Countryside Act (as amended). Stag Beetle is also included on the 1992 EC Habitats Directive: Annex II and V(a) which through the 2017 Conservation of Habitats and Species Regulations (as amended) provides for the setting up of SACs where key populations exist. In addition, it is a UKBAP priority species and listed as a Species of Principal Importance under Section 41 of the 2006 NERC Act;
- Butterfly records for five species including Purple Emperor, Small Blue, Chalk Hill Blue, White-letter Hairstreak and Brown Hairstreak which are all protected against sale only through their inclusion on Schedule 5 of the 1981 Wildlife and Countryside Act (as amended); and
- Moth and butterfly records for over 40 species listed as Species of Principal Importance under Section 41 of the 2006 NERC Act.

**Field Survey**

8.4.84. The Invertebrate Survey found that the vast majority of the Site, notably the arable fields and pastures, comprises habitat of low invertebrate interest. The woodlands within the Site were found to provide only limited habitat for invertebrates due to an absence of recent management and high levels of shading. Wetlands within the Site were also found to be of limited value for invertebrates primarily due to their largely temporary hydrology and low water levels.

8.4.85. Habitats of higher interest for invertebrates include the network of hedgerows and field margins across the Site. A relatively small number of scarce and threatened invertebrate species were recorded during the surveys and the Site is considered to be of Local value for invertebrates as a whole.

8.4.86. The most notable record made during the surveys was an adult female Brown Hairstreak butterfly on Bramble in the north of the Site.

8.4.87. Other notable species recorded during the surveys included one Nationally Rare (RDB 2) species and seven Nationally Scarce species. Five of these have however increased in population since their status was last assessed and may require a downgrade in their status assessments.

8.4.88. The full findings of the invertebrate survey are provided in the Invertebrate Survey Report and Aquatic Macroinvertebrate Survey Report, included as **Volume 2, Appendix 8.15: Invertebrate Survey Reports**.

## PLANTS

**Desk Study**

8.4.89. 302 records of 47 protected or notable plant species were provided for the desk study area. 11 of these records relate to the Site including five records of Bluebell, two records of Wild Strawberry,

three records of Wood Sorrel and one record of Greater Butterfly Orchid. Bluebell is protected under Schedule 8 of the 1981 Wildlife and Countryside Act (as amended) against commercial exploitation only. Wild Strawberry, Wood Sorrel and Greater Butterfly Orchid are all listed as Near Threatened in Great Britain.

8.4.90. Other protected and notable plant records for the wider desk study area include:

- Cut-grass which is protected under Schedule 8 of the 1981 Wildlife and Countryside Act (as amended) against commercial exploitation only. It is also listed as a Species of Principal Importance under Section 41 of the 2006 NERC Act and is a UKBAP Priority species and is listed as Endangered in Great Britain;
- White Helleborine and Spreading Hedge-parsley which are listed as a Species of Principal Importance under Section 41 of the 2006 NERC Act, and are UKBAP Priority species. In addition, Spreading Hedge-parsley is listed as Endangered and White Helleborine is listed as Vulnerable in Great Britain; and
- Seven further species which are listed as Vulnerable in Great Britain including Field Garlic, Stinking Chamomile, Rye Brome, Oak-leaved Goosefoot, Dwarf Spurge, Sainfoin and Lesser Spearwort.

**Field Survey**

8.4.91. Rhododendron has been recorded in association with woodland parcels in the north of the Site and Smith's Copse in the east of the Site, Montbretia has been recorded in association with the woodland in the north of the Site and Variegated Yellow Archangel has been recorded in association with the woodland in the north of the Site and Courtland Wood in the west of the Site. Common Rhododendron *Rhododendron ponticum*, hybrid species *Rhododendron ponticum* x *maximum*, Montbretia *Crocosmia* × *crocosmiiflora* and Variegated Yellow Archangel *Lamium galeobdolon* are all non-native invasive species included on Schedule 9 of the 1981 Wildlife and Countryside Act (as amended). It is an offence to release, plant or cause to grow in the wild any plant included on this schedule of the Act.

8.4.92. The only protected plant species recorded within the Site are native Bluebell, which is protected under Schedule 8 of the 1981 Wildlife and Countryside Act (as amended) against commercial exploitation.

8.4.93. Other than the veteran trees described above in Section 8.4.22, no other protected, rare and / or notable plants were identified during the extended Phase 1 habitat survey, UK Habitat Classification survey or suite of other field surveys carried out at the Site.

## FUTURE BASELINE

8.4.94. The majority of the baseline conditions identified in Section 8.4 above are maintained through ongoing management of the Site. With the continued implementation of current management practices, it is not expected that the ecological character of the Site would change significantly over the next ten years and as such, no alterations to the assessment of potential effects, mitigation and residual effects described above would be anticipated.

## 8.5. SENSITIVE RECEPTORS

### IDENTIFICATION OF 'KEY ECOLOGICAL RECEPTORS' AND 'OTHER ECOLOGICAL RECEPTORS' REQUIRING CONSIDERATION

8.5.1. Ecological receptors within the potential ZOI have been evaluated, and a value assigned to each at a given geographical scale. **Table 8-4** summarises the evaluation of these receptors, in addition to relevant policies and legislation.

8.5.2. 'Key Ecological Receptors' are those having potential to be significantly affected by the Proposed Development in a manner that has material implications in the EIA decision-making process in the absence of any effect avoidance, reduction, mitigation or compensation measures. The potential effects of the Proposed Development on the ecological receptors for consideration in the EcIA are then identified in **Table 8 5.** The following sub-sections provide the rationale for determining key ecological receptors on the basis of both value and potentially significant effects outlined in the tables.

8.5.3. Other important ecological receptors recognised for their nature conservation value at a local level are also identified where adverse effects might occur that require avoidance and mitigation measures in keeping with nature conservation legislation and planning policy and guidance, along with those receptors requiring mitigation for legislative or policy reasons. Those which have been scoped out of the remainder of the assessment (identified as being of no or negligible nature conservation value at a local level) are also identified.

8.5.4. **Section 8.6** provides a detailed impact assessment for each of the Key Ecological Receptors and other important ecological receptors listed in **Section 8.5.6 to 8.5.7** below. For each receptor, the assessment of effects is followed by details of effect avoidance, reduction, mitigation and compensation measures. An assessment of any residual effects following implementation of the specified mitigation is also provided. Ecological enhancements relevant to the expected long-term status of key ecological receptors are also discussed here. This receptor-by-receptor approach to reporting of effects, mitigation and residual effects is a deviation from the structure of other chapters in this Environmental Statement, but has been employed for convenience to the reader given the number of ecological receptors, each having their own considerations. Effects on other receptors are discussed later in the same section.

8.5.5. All key sensitive receptor locations in relation to Ecology within the Site are shown on **Figures 8-1** to **8-7**.

**Table 8-4 - Evaluation, conservation status, policy and legislative considerations for ecological receptors potentially affected by the Proposed Development**

**Key to table:**

*Conservation Status*

| | |
|---|---|
| SPA | Special Protection Area |
| SAC | Special Area of Conservation |
| Ramsar | Ramsar site |
| SSSI | Site of Special Scientific Interest |
| LWS | Local Wildlife Site |
| UKBAP | Contains Priority Habitats or is a Priority Species listed in the UK Biodiversity Action Plan |
| LBAP | Contains Priority Habitats or is a Priority Species listed in the Sussex Biodiversity Action Plan |
| AW | Woodland listed on Natural England's Inventory of Ancient Woodland |
| BOCC | Red- or amber-listed within 'Birds of Conservation Concern' (Ref 8-29) |
| RDB | Listed in the British 'Red Data Book' for insects. |

*Policy*

Policies referred to in the table are listed below.

| | |
|---|---|
| NPPF | 2024 National Planning Policy Framework |
| AW & VT | Standing Advice for Ancient Woodland and Veteran Trees **(Ref 8-20)** |

**Horsham District Planning Framework (Ref 8-12)**

| | |
|---|---|
| SP24 | Environmental Protection |
| SP25 | The Natural Environment and Landscape Character |
| SP26 | Countryside Protection |
| SP31 | Green Infrastructure and Biodiversity |

**Southwater Neighbourhood Plan (Ref 8-13)**

| | |
|---|---|
| SNP18 | A Treed Landscape |

**Draft Horsham District Local Plan 2023-2040 (Ref 8-14).**

| | |
|---|---|
| LPSP 25 | Environmental Protection |
| LPSP 27 | The Natural Environment and Landscape Character |
| LPSP 28 | Countryside Protection |

*Legislation*

| | |
|---|---|
| CHSR | 2017 Conservation of Habitats and Species Regulations (as amended) |
| EPS | European Protected Species under the 2017 Conservation of Habitats and Species Regulations (as amended) |
| WCA | 1981 Wildlife and Countryside Act (as amended) (figures in superscript denote Schedules under which protection is delivered) |
| WCA[1] | Some bird species receive additional protection under Schedule 1 of the 1981 Wildlife and Countryside Act (as amended) |
| WCA[6] | Prohibits certain methods of killing and capture |
| [redacted] | [redacted] |
| CRoW | 2000 Countryside and Rights of Way Act |
| Hedgerow Regulations | Wildlife and Landscape Criteria of the 1997 Hedgerows Regulations |
| NERC | 2006 Natural Environment and Rural Communities Act |

| Ecological receptor | Value / Sensitivity | Reasons for evaluation | Recognised conservation status | Relevant policies | Legislation |
|---|---|---|---|---|---|
| Arun Valley SAC/SPA/Ramsar site | International | Extensive wetlands supporting important populations of wintering birds, invertebrates and plants, located 12.5km to the south-west of the Site. | SAC<br>SPA<br>Ramsar<br>SSSI<br>UKBAP | NPPF<br>SP31 | CHSR<br>WCA<br>CRoW<br>NERC |
| The Mens SAC | International | Extensive area of Beech forests supporting a significant population of Barbastelle bats, located 10.8km to the south-west of the Site. | SAC<br>SSSI<br>UKBAP | NPPF<br>SP31 | CHSR<br>WCA<br>CRoW<br>NERC |
| St Leonard's Park Ponds SSSI | National | A series of species-rich ponds associated with a wooded stream, located 4.2km to the north-east of the Site. | SSSI<br>UKBAP | NPPF<br>SP25<br>SP26<br>SP31<br>LPSP 25<br>LPSP 27<br>LPSP 28 | CHSR<br>WCA<br>CRoW<br>NERC |
| St Leonard's Forest SSSI | National | Remnants of ancient deciduous woodland located 4.5km to the north-east of the Site. | SSSI<br>UKBAP | NPPF<br>SP25<br>SP26<br>SP31 | CHSR<br>WCA<br>CRoW<br>NERC |

| Ecological receptor | Value / Sensitivity | Reasons for evaluation | Recognised conservation status | Relevant policies | Legislation |
|---|---|---|---|---|---|
| | | | | LPSP 27<br>LPSP 28 | |
| Courtland Wood LWS, Sparrow Copse LWS and other undesignated ancient woodland within and adjacent to the Site (Smith's Copse and Two Mile Ash Gill) | District | The LWSs are non-statutory designated sites of nature conservation importance at a District level. The ancient woodlands support a good diversity of plant species, including ancient woodland indicators, and provide habitat for a range of protected and notable species including bats, birds, invertebrates and notable plant species. The woodlands also qualify as Habitats of Principal Importance under Section 41 of the NERC Act 2006. | UKBAP<br>LBAP<br>LWS | NPPF<br>SP25<br>SP26<br>SP31<br>SNP18<br>LPSP 27<br>LPSP 28 | NERC |
| Other non-statutory designated sites and ancient woodlands within the ZOI | County-District | Sites of nature conservation importance at a district to county level. Includes a range of LWSs primarily comprising woodland and grassland habitats and areas of ancient woodland in the vicinity of the Site. | UKBAP<br>LBAP<br>LWS<br>AW | NPPF<br>AW & VT<br>SP25<br>SP26<br>SP31<br>SNP18<br>LPSP 27<br>LPSP 28 | NERC |
| Network of secondary woodland, hedgerows, mature trees and treelines in combination | District | Many of the hedgerows within the Site are identified as 'important' under the Wildlife and Landscape Criteria of the Hedgerows Regulations 1997 and qualify as Habitats of Principal Importance under Section 41 of the NERC Act 2006. Overall the network of secondary woodlands, | UKBAP<br>LBAP | NPPF<br>SP26<br>SNP18<br>LPSP 27 | NERC<br>Hedgerow Regulations |

| Ecological receptor | Value / Sensitivity | Reasons for evaluation | Recognised conservation status | Relevant policies | Legislation |
|---|---|---|---|---|---|
| | | hedgerows, treelines and scattered trees across the Site provides opportunities for the movement of wildlife across and around the Site, in addition to providing habitat of value in its own right for a range of species including bats, birds and invertebrates. | | LPSP 28 | |
| Veteran trees in combination | Low District | 14 veteran trees are present within the Site, primarily in association with hedgerows. These support significant veteran features and are of value to a range of species associated with deadwood and old growth habitats. | None | AW & VT<br>SP26<br>SNP18<br>LPSP 27<br>LPSP 28 | NERC |
| Network of streams, ditches and ponds | High Local | Two ponds and a network of streams and ditches are present in the Site. Although in most instances these are of limited ecological interest individually and similar features are widespread in the surrounding landscape, together these waterbodies provide habitat for a range of wildlife and contribute towards the network of semi-natural habitats across the Site and appreciably enhance the ecological interest of their surrounds. | UKBAP<br>LBAP | NPPF<br>SP24<br>SP26<br>LPSP 25<br>LPSP 27<br>LPSP 28 | NERC |
| Grassland | Low Local | Areas of species-poor semi-improved and improved grassland within the Site are generally of low species diversity, comprise common and widespread species, and similar habitats are widespread in the local area. These areas are however considered in combination to be of low local interest due to their extent within the central parts of the Site and their provision of supportive habitat for protected and BAP species. | None | | None |

| Ecological receptor | Value / Sensitivity | Reasons for evaluation | Recognised conservation status | Relevant policies | Legislation |
|---|---|---|---|---|---|
| Arable fields | Low Local | The arable fields present are intensively cultivated with limited marginal habitats, provide few opportunities for wildlife, and no notable arable weed species have been recorded within these areas. Although of negligible interest individually, in combination these habitats are of local interest due to their extent within the Site and provision of habitat for farmland bird species. | UKBAP | | NERC |
| Bats: roosting | High Local | A number of roost sites are associated with individual/small numbers of roosting bats within buildings and trees across the Site. Other mature trees and other buildings within the Site also provide roosting opportunities. Similar opportunities are however abundant and widespread in the surrounding area. | UKBAP | NPPF | EPS<br>NERC<br>WCA |
| Bats: foraging and commuting | Low District | There is low to moderate usage of the Site by predominantly relatively common and widespread bat species. At least 9 bat species were recorded during the survey, with highest concentrations of bat activity occur in association with the Downs Link in the south of the Site and in association with woodland belts in the north. | UKBAP | NPPF | EPS<br>NERC<br>WCA |
| Dormouse | Negligible | Currently absent from the Site. The majority of the Site provides unsuitable habitat for Dormice but pockets of woodland and the mature hedgerow network present throughout the Site provide limited areas of more suitable habitat. | UKBAP | NPPF | EPS<br>NERC<br>WCA |
| Otter | Negligible | Currently absent from the Site. The watercourses associated with the Site generally provide unsuitable habitat for Otter due to low water levels and lack of food source. | UKBAP | NPPF | EPS<br>NERC<br>WCA |

| Ecological receptor | Value / Sensitivity | Reasons for evaluation | Recognised conservation status | Relevant policies | Legislation |
|---|---|---|---|---|---|
| Water Vole | Negligible | Currently absent from the Site. The watercourses associated with the Site generally provide sub-optimal habitat for Water Vole, due to shallow water levels, seasonal drying out and an absence of marginal and aquatic vegetation. | UKBAP | NPPF | NERC<br>WCA |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| Birds | High Local | The Site supports a number of relatively common and widespread breeding and wintering birds of conservation concern. The Site is dominated by farmed habitats which in general are of relatively low value to breeding birds in this instance. Habitats of higher interest within the Site include woodland, hedgerows, scattered mature trees, grassland, scrub albeit these did not support notable assemblages or species. The Site is largely considered to be of high local value for birds in view of its extent. | BOCC<br>(Red-listed)<br>(Amber-listed) | NPPF | NERC<br>WCA[1] |
| Reptiles | Low Local | Very low populations of Grass Snake and Common Lizard have been recorded from the main Site and a very low populations of Slow-worm and Grass Snake have been recorded from the Christ's Hospital area. Very low numbers of these species could conceivably be present throughout the Site where suitable habitat occurs. In view of the low numbers recorded, and the abundance of similar and higher quality habitat available in the wider area the Site is unlikely to be of exceptional interest for reptiles in a local context. | UKBAP | NPPF | NERC<br>WCA (S5)[2] |

| Ecological receptor | Value / Sensitivity | Reasons for evaluation | Recognised conservation status | Relevant policies | Legislation |
|---|---|---|---|---|---|
| Great Crested Newts | High Local | Presence of Great Crested Newts confirmed within the Site in the vicinity of Waterbodies 9 and 35. Suitable terrestrial habitats are present within the Site and it is likely that Great Crested Newts are present where suitable terrestrial habitats occur within 250m of Waterbodies 9 and 35. Great Crested Newts are however frequent in West Sussex. | UKBAP | NPPF | EPS<br>NERC<br>WCA |
| Invertebrates | Moderate Local | One BAP butterfly species was recorded, along with one Nationally Rare (RDB) and seven Nationally Scarce species (albeit the Nationally Rare species and five of the Nationally Scarce are likely to be reclassified due to recent expansions). Notwithstanding the limited number of notable species recorded, the network of hedgerows and field margins provide good habitat for invertebrates and as a whole the Site is considered to be of local value for this group. | UKBAP<br>RDB | NPPF | NERC |

**Table 8-5 - Identification of the potential effects of the development for consideration on identified ecological receptors, in the absence of mitigation measures**

| Ecological receptor | Associated habitats / species | Value / Sensitivity | Potential effects (in the absence of mitigation measures) |
|---|---|---|---|
| Arun Valley SAC / SPA / Ramsar site and Upper Arun SSSI | Wetland habitats supporting important populations of wintering birds, invertebrates and plants. | International to National | **CONSTRUCTION PHASE**<br>- Effects on the hydrological resource and water quality of the SAC / SPA / Ramsar / SSSI resulting from construction activities within the Site.<br>- Effects on the quality and quantity of water entering the Arun Valley SPA, SAC and Ramsar and Upper Arun SSSI through environmental accidents.<br>**OPERATIONAL PHASE**<br>- Effects on the quality and quantity of water entering the Arun Valley SPA, SAC and Ramsar and Upper Arun SSSI through changes in Site run-off or environmental accidents. |
| The Mens SAC | Beech forests supporting a significant population of Barbastelle bats. | International | **CONSTRUCTION PHASE**<br>- Loss and fragmentation of small areas of bat foraging and commuting habitat potentially used by bats associated with the SAC.<br>- Disturbance to foraging / commuting bats associated with the SAC from construction phase lighting.<br>**OPERATIONAL PHASE**<br>- Loss and fragmentation of small areas of bat foraging and commuting habitat potentially used by bats associated with the SAC.<br>- Disturbance to foraging / commuting bats associated with the SAC from operational phase lighting.<br>- Enhanced foraging habitat within informal open space through establishment of new wetlands and meadow grassland, trees and scrub in accordance with Development Parameters (beneficial). |

| Ecological receptor | Associated habitats / species | Value / Sensitivity | Potential effects (in the absence of mitigation measures) |
|---|---|---|---|
| St Leonard's Park Ponds SSSI | A series of species-rich ponds associated with a wooded stream. | National | **CONSTRUCTION PHASE**<br>- No effects expected due to the distance between the Site and the SSSI, the limited ecological connectivity with the Site and the character of the habitats and features for which the SSSI is designated.<br>**OPERATIONAL PHASE**<br>- No effects expected due to the distance between the Site and the SSSI, the limited ecological connectivity with the Site, the character of the habitats and features for which the SSSI is designated and provision of substantial green space within the Site. |
| St Leonard's Forest SSSI | Remnants of ancient deciduous woodland. | National | **CONSTRUCTION PHASE**<br>- No effects expected due to the distance between the Site and the SSSI, the limited ecological connectivity with the Site and the character of the habitats and features for which the SSSI is designated.<br>**OPERATIONAL PHASE**<br>- No effects expected due to the distance between the Site and the SSSI, the limited ecological connectivity with the Site, the character of the habitats and features for which the SSSI is designated and provision of substantial green space within the Site. |
| Courtland Wood LWS (on-site) and Sparrow Copse LWS (off-site) and other undesignated ancient woodland within and adjacent to the Site (Smith's Copse, Two Mile Ash Gill) | Ancient deciduous woodlands provide habitat for a range of protected and notable species including bats, birds, invertebrates and notable plant species. | District | **CONSTRUCTION PHASE**<br>- Direct and indirect physical damage to retained trees within the ancient woodlands.<br>- Increased light and noise levels affecting value of the retained ancient woodlands for wildlife<br>- Loss of habitat connectivity between Smith's Copse and Courtland Wood LWS through new road infrastructure.<br>- Opportunity for establishment of new woodland planting and complementary habitats within open spaces (beneficial). |

| Ecological receptor | Associated habitats / species | Value / Sensitivity | Potential effects (in the absence of mitigation measures) |
|---|---|---|---|
| | | | **OPERATIONAL PHASE**<br>- Damage to retained ancient woodland habitats resulting from an increase in recreational activity, tipping of garden waste, and drift of fertilizers and biocides from the proposed allotments entering Smith's Copse during the operational phase. |
| Other non-statutory designated sites and ancient woodlands within the ZOI | Comprising woodland and grassland habitats. | County-District | **CONSTRUCTION PHASE**<br>- No effects expected due to the distance between the Site and the other designated areas, the limited ecological connectivity with the Site and the character of the habitats and features present within the other designated areas.<br>**OPERATIONAL PHASE**<br>- No effects expected due to the distance between the Site and the other designated areas, the limited ecological connectivity with the Site, the character of the habitats and features present within the other designated areas and provision of substantial green space within the Site. |
| Network of secondary woodlands, hedgerows, mature trees and treelines in combination | Habitat network for a range of wildlife including nesting birds, foraging / commuting bats, reptiles etc. Includes 'important' hedgerows (veteran / ancient trees considered separately below). | District | **CONSTRUCTION PHASE**<br>- Loss of secondary woodlands, hedgerows and trees of limited ecological importance in their own right.<br>- Severance of existing hedgerow corridors where crossed by roads / cycleways / footpath routes.<br>- Direct physical damage to retained secondary woodlands, hedgerows, trees and scrub and indirect damage through ground compaction, pollution, root severance, ground-level changes and loss of supportive habitat for associated wildlife.<br>- Increased light and noise levels affecting the value of retained secondary woodland, hedgerows, ditches, scrub and trees for wildlife.<br>- Establishment of new structural landscape planting and opportunity for other new hedgerows, woodland and scattered trees part of the Site's green infrastructure (beneficial). |

| Ecological receptor | Associated habitats / species | Value / Sensitivity | Potential effects (in the absence of mitigation measures) |
|---|---|---|---|
| | | | **OPERATIONAL PHASE**<br>- Direct and indirect physical damage to woodlands, hedgerows, scrub and trees.<br>- Increased light and noise levels affecting the value of retained woodlands, hedgerows, ditches, scrub and trees for wildlife. |
| Veteran trees in combination | Trees supporting significant veteran features generally associated with hedgerows and woodland areas. Of value to a range of species including bats, birds and specialist invertebrates. | Low District | **CONSTRUCTION PHASE**<br>- Direct loss of veteran trees and deterioration of retained trees through loss and damage to associated habitat.<br>- Direct or indirect physical damage to retained veteran trees through ground compaction, pollution, root severance, ground-level changes and impacts on hydrology.<br>- Increased light and noise levels affecting value of retained veteran trees for wildlife.<br>**OPERATIONAL PHASE**<br>- Deterioration of retained veteran trees through loss and damage to associated habitat.<br>- Increased light and noise levels affecting value of retained veteran trees for wildlife. |
| Network of streams, ditches and ponds | Wetlands provide habitat for a range of species including bats, birds, reptiles, amphibians and invertebrates. | High Local | **CONSTRUCTION PHASE**<br>- Direct loss of ditch habitats and loss of connectivity where streams and ditches are crossed by roads.<br>- Waterborne pollution entering wetlands through Site run-off or environmental accidents.<br>- Adverse effects on the quality and quantity of water entering the waterbodies and continuity of the flow of on-site and off-site streams.<br>- Increased noise and light to wildlife currently using the waterbodies. |

| Ecological receptor | Associated habitats / species | Value / Sensitivity | Potential effects (in the absence of mitigation measures) |
|---|---|---|---|
| | | | - Opportunities for enhancement of retained on-site streams, ponds and ditches and creation of new wetland habitats as part of the Site's SuDS network (beneficial).<br>**OPERATIONAL PHASE**<br>- Waterborne pollution entering wetlands through Site run-off or environmental accidents.<br>- Adverse effects on the quality and quantity of water entering the waterbodies and continuity of the flow of on-site and off-site streams.<br>- Increased noise and light to wildlife using retained and newly created wetland habitats. |
| Grassland | Provision of supportive habitat for a range of species [redacted] | Low Local | **CONSTRUCTION PHASE**<br>- Loss of grassland habitats.<br>- Opportunity for establishment of new areas of species-rich rough and meadow grassland habitats within the Site's green infrastructure (beneficial).<br>**OPERATIONAL PHASE**<br>- None identified. |
| Arable fields | Although of negligible interest individually, these areas are of local interest collectively due to their extent within the Site and provision of habitat for farmland bird species. | Low Local | **CONSTRUCTION PHASE**<br>- Loss of arable habitat.<br>**OPERATIONAL PHASE**<br>- None identified. |
| Bats: roosting | Roosting in buildings and mature trees across the Site. | High Local | **CONSTRUCTION PHASE**<br>- Injury / mortality of roosting bats, destruction or abandonment of roosts and loss of bat roosting opportunities. |

| Ecological receptor | Associated habitats / species | Value / Sensitivity | Potential effects (in the absence of mitigation measures) |
|---|---|---|---|
| | | | **OPERATIONAL PHASE**<br>- Injury / mortality of roosting bats, destruction or abandonment of roosts and loss of bat roosting opportunities.<br>- As the buildings / trees of the Proposed Development age / mature it is likely that these will provide new opportunities for roosting bats (beneficial). |
| Bats: foraging and commuting | At least 9 bat species were recorded during the survey, with highest concentrations of bat activity occur in association with the Downs Link in the south of the Site and in association with woodland belts in the north. | Low District | **CONSTRUCTION PHASE**<br>- Mortality of foraging / commuting bats and effects on foraging and commuting habitat through habitat loss and fragmentation and increased light levels.<br>- Opportunities for enhanced foraging habitat within the Site's green infrastructure through establishment of new wetlands and meadow grassland, trees and scrub (beneficial - commencing in the construction phase and continuing throughout the operational phase).<br>**OPERATIONAL PHASE**<br>- Mortality of foraging / commuting bats and effects on foraging and commuting habitat through habitat loss and fragmentation and increased light levels.<br>- Opportunities for enhanced foraging habitat within the Site's green infrastructure through establishment of new wetlands and meadow grassland, trees and scrub (beneficial - commencing in the construction phase and continuing throughout the operational phase). |

| Ecological receptor | Associated habitats / species | Value / Sensitivity | Potential effects (in the absence of mitigation measures) |
|---|---|---|---|
| [redacted] | [redacted] | [redacted] | [redacted] |
| Birds | The Site supports a number of relatively common and widespread breeding and wintering birds of conservation concern. Despite the dominance of farmland the Site is of limited interest for farmland birds. Habitats of higher interest include woodland, hedgerows, scattered mature trees, grassland and scrub albeit these did not support notable assemblages or species. | High Local Value | **CONSTRUCTION PHASE**<br>- Effects on nesting birds through direct physical damage and indirect effects of disturbance on new and retained habitats.<br>- Loss and fragmentation of habitats including trees, hedgerows, scrub and open farmland.<br>- Opportunities for establishment of new breeding and foraging habitat and ecological corridors as part of the Site's green infrastructure (beneficial - commencing in the construction phase and continuing throughout the operational phase).<br>**OPERATIONAL PHASE**<br>- Effects on nesting birds through direct physical damage and indirect effects of disturbance on new and retained habitats.<br>- Loss and fragmentation of habitats including trees, hedgerows, scrub and open farmland. |

| Ecological receptor | Associated habitats / species | Value / Sensitivity | Potential effects (in the absence of mitigation measures) |
|---|---|---|---|
| | | | - Opportunities for establishment of new breeding and foraging habitat and ecological corridors as part of the Site's green infrastructure (beneficial - commencing in the construction phase and continuing throughout the operational phase). |
| Reptiles | Very low populations of Grass Snake, Common Lizard and Slow-worm present across the Site in association with rough grassland, scrub, woodland edges, wetlands and hedgerow bases. | Low Local | **CONSTRUCTION PHASE**<br>- Direct injury or mortality of individual reptiles.<br>- Reduction in the availability of suitable habitat at the Site.<br>- Opportunity for creation and maintenance of areas of new habitat as part of the Site's green infrastructure (beneficial - commencing in the construction phase and continuing throughout the operational phase).<br>**OPERATIONAL PHASE**<br>- Reduction in the availability of suitable habitat at the Site.<br>- Disturbance and mortality of reptiles through increased predation and human activity.<br>- Opportunity for creation and maintenance of areas of new habitat as part of the Site's green infrastructure (beneficial - commencing in the construction phase and continuing throughout the operational phase). |
| Great Crested Newts | Great Crested Newt breeding ponds (Waterbodies 9 and 35) present in proximity to the Site. Terrestrial habitat within the Site including rough grassland, scrub and hedgerow bases within 250m of Waterbodies 9 and 35 support at least a low | High Local | **CONSTRUCTION PHASE**<br>- Direct injury and mortality of individual Great Crested Newts and reduction in available habitat.<br>- Establishment of new potential breeding habitat and new terrestrial habitat (beneficial - commencing in the construction phase and continuing throughout the operational phase).<br>**OPERATIONAL PHASE**<br>- Direct injury and mortality of individual Great Crested Newts and reduction in available habitat. |

| Ecological receptor | Associated habitats / species | Value / Sensitivity | Potential effects (in the absence of mitigation measures) |
|---|---|---|---|
| | population of Great Crested Newts. | | - Increased likelihood of disturbance and accidental mortality through increased human activity.<br>- Establishment of new potential breeding habitat and new terrestrial habitat (beneficial - commencing in the construction phase and continuing throughout the operational phase). |
| Invertebrates | Habitats of highest invertebrate interest within the Site include the network of hedgerows and field margins. | Moderate Local | **CONSTRUCTION PHASE**<br>- Direct loss of some areas of habitat supporting invertebrates.<br>- Opportunities for creation of new areas of high-quality habitat in areas of informal open spaces as part of Site's green infrastructure (beneficial - commencing in the construction phase and continuing throughout the operational phase).<br>**OPERATIONAL PHASE**<br>- Opportunities for creation of new areas of high-quality habitat in areas of informal open spaces as part of Site's green infrastructure (beneficial - commencing in the construction phase and continuing throughout the operational phase). |

8.5.6. The following ecological receptors within the Site and in the ZOI of the Proposed Development have been identified as key ecological receptors in accordance with the methodology outlined in **Section 8.2** and **Section 8.5.1 – 8.5.4** above, which considers both the value of the receptor and the potential effects upon it. Further details for each are provided in Section 8.6.

- Arun Valley SAC / SPA / Ramsar site;
- The Mens SAC;
- Courtland Wood LWS, Sparrows Copse LWS and other undesignated ancient woodland within and adjacent to the Site (Smith's Copse and Two Mile Ash Gill);
- Network of hedgerows, mature trees and treelines;
- Veteran / ancient trees;
- Bats; and
- Birds.

8.5.7. All remaining ecological receptors identified within the Site with the potential to be affected by the Proposed Development are of no more than local interest and are not significant in an EIA context. Whilst these do not qualify for consideration as key ecological receptors, where appropriate these receptors are considered further in Section 8.6 in view of their inherent ecological interest and/ or nature conservation legislation and planning policy and guidance. These receptors include:

- Network of streams, ditches and ponds;
- [redacted]
- Reptiles;
- Great Crested Newts; and
- Invertebrates.

8.5.8. In addition to the above, consideration is given to the habitat creation and enhancement opportunities generated through the Proposed Development of the Site.

## 8.6. ASSESSMENT OF POTENTIAL EFFECTS, MITIGATION AND RESIDUAL EFFECTS

### KEY ECOLOGICAL RECEPTORS

8.6.1. This section provides detailed information on the nature of potential effects on the key ecological receptors listed in **Section 8.5**, and describes the avoidance, reduction, mitigation and compensation measures to be employed in each case in line with CIEEM guidelines. Ecological enhancements relevant to the expected long-term status of the ecological receptors are also discussed, along with an assessment of any residual effects following implementation of the specified mitigation. As mentioned above, each ecological receptor is addressed in turn. Given the range of ecological receptors and effects for consideration, this deviation from the approach taken in other chapters provides a more coherent approach.

8.6.2. Consistent with CIEEM guidance the structure of the chapter considers the likely significant effects, mitigation measures and residual effects for each receptor in turn. The use of headings allows signposting of each matter consistent with other chapters of the ES.

## KEY ECOLOGICAL RECEPTOR: ARUN VALLEY SAC / SPA / RAMSAR SITE AND UPPER ARUN SSSI

### Overview

**8.6.3.** The Arun Valley SPA is located approximately 12.5km to the south-west of the Site at its closest point. This 530.42ha SPA is designated for the internationally important assemblage of wintering birds that it supports, including Bewick's Swan. An area of 487.48ha within the SPA footprint is also designated as Arun Valley SAC which is designated for its population of Little Whirlpool Ram's-horn Snail. The Upper Arun SSSI is located approximately 4.5km to the north-east of the Site. This 17.58ha SSSI comprises a 13km stretch of the River Arun which supports an outstanding assemblage of breeding dragonflies and is upstream of the Arun Valley SPA / SAC / Ramsar.

### Potential Effects

8.6.4. The principal risks to the site integrity of the Arun Valley SPA and Ramsar according to the Natural England Site Improvement Plan (**Ref 8-30**) (prepared before the area was designated a SAC) are as follows:

- Water pollution – Threat to Bewick's Swan and Little Whirlpool Ram's-horn Snail from pollutants;
- Inappropriate ditch management – Threat to Bewick's Swan and Little Whirlpool Ram's-horn Snail from ditch clearance; and
- Inappropriate water levels - Threat to Bewick's Swan, Little Whirlpool Ram's-horn Snail and waterbird assemblage from ditch management and tidal strategy.

Further to this, Natural England have identified the following pressures on the Upper Arun SSSI (**Ref 8-45**):

- Water pollution – Water Company Discharges Causing Water Pollution.

8.6.5. With regards to the principal risks identified above:

- **Water Pollution**: Part of the Site falls within the catchment of the River Arun SPA, SAC and Ramsar and Upper Arun SSSI. The Proposed Development will therefore need to ensure that the quality and quantity of water entering the catchment is maintained.
- **Inappropriate ditch management**: Management of ditches within the Arun Valley SPA, SAC and Ramsar is unrelated to the Proposed Development. No adverse effects on ditch management would therefore arise as a result of the Proposed Development, either alone or in combination.
- **Inappropriate water levels**: The tidal strategy and management of ditches within the Arun Valley SPA, SAC and Ramsar is unrelated to the Proposed Development. No adverse effects on water levels arising from ditch management and the tidal strategy would therefore arise as a result of the Proposed Development, either alone or in combination.

  With regards to inappropriate water levels however, the Site is located in the Sussex North Water Supply Zone and in '*Natural England's Withdrawal Statement for Applications within Sussex North Supply Zone: 31st October 2025*' **(Ref 8-31),** Natural England identify that "*In collaboration with the Environment Agency and Southern Water, Natural England has agreed a package of ecological resilience measures and proposed licence amendments that will, address the risk of further decline of the Arun Valley sites as a result of the existing abstraction. These measures are to be implemented by March 2026. In Natural England's view this provides certainty that*

*development in the SNWSZ will not have a likely significant effect on the Arun Valley sites in line with the Habitat Regulations*".

8.6.6. With reference to the risks discussed above, potential effects on this internationally to nationally designated areas resulting from the Proposed Development for consideration in this assessment are therefore limited to:

- Effects on the quality and quantity of water entering the Arun Valley SPA, SAC and Ramsar and Upper Arun SSSI through Site run-off or environmental accidents.

8.6.7. This potential effect is considered below.

**Effect 1: Effects on the quality and quantity of water entering the Arun Valley SPA, SAC and Ramsar and Upper Arun SSSI through changes in Site run-off or environmental accidents**

Construction Phase

*Effects*

8.6.8. Within the area of the Site forming part of the catchment of the River Arun, construction phase activities have the potential to cause pollution of watercourses within the vicinity of construction works through fuel and oil spillages, leakage from storage containers, Site worker facilities and increases in sediment run-off during building demolition, soil stripping and construction works.

8.6.9. Spillage of contaminants and silt flotation during construction represents an adverse effect, causing potential damage to hydrological processes and associated flora and fauna. A major spillage of contaminants could potentially affect watercourses leading to the River Arun.

8.6.10. In the absence of mitigation, such a spillage could directly result in an adverse major likely significant effect on a receptor of international to national value, albeit this is extremely unlikely to occur given the position of the Site within the catchment and the limited scale of any such event in the context of wider catchment. Effects could potentially be intermittent or cumulative. In view of the very low flow levels of the ditches and streams present, depending on the nature and extent of the pollution incident, any such incidents have the potential to be long-term and irreversible although lesser negligible effects are much more likely.

*Additional Avoidance and Mitigation*

8.6.11. Pollution avoidance measures to be implemented to prevent physical and chemical pollutants entering watercourses during the construction phase should be included within the CEMP for the Proposed Development. In accordance with the provisions of Berkeley's *Group Sustainability Standard - Contractors* (**Ref 8-32**) this should include the following:

- During the construction phase, workers should be fully briefed on ecologically sensitive habitats and all construction activities should be conducted in accordance with the gov.uk guidance on Pollution Prevention for Businesses (**Ref 8-19**);
- Design and implementation of a temporary drainage strategy that captures waterborne pollution prior to entering the watercourses and other associated wetland habitats, incorporating settlement tanks and / or interceptors where necessary;
- Silos to be bunded on a minimum of 3 sides and at least 200mm high to prevent leaks from the sides, with a trough or drain at the front to capture washout;
- Concrete and mortar wash water must be managed in accordance with the relevant regulatory position statement. If washout of wagons, hoppers, mixers or concrete pumps must occur on-site,

it must occur in a dedicated and contained area. Waters must not be discharged to the ground, watercourses or the drainage system. Provide bunding / screening to concrete delivery and pumping areas; and

- All hazardous liquids and chemicals should be stored and utilised in accordance with the *2002 COSHH Regulations*.

*Residual Effects*

8.6.12. With the above measures in place across the Site, it is considered that an adverse likely significant effect on any off-site downstream watercourses, including the River Arun, arising from pollution during the Site construction phase would be extremely unlikely. The overall residual effect is therefore expected to be a not significant and **negligible** at a local level.

Operational Phase

*Effects*

8.6.13. The surface water drainage scheme for the Proposed Development has been designed to maintain the current quantity of water feeding into the River Arun catchment. However, during the operational phase, in the absence of mitigation the watercourses within the River Arun catchment may be directly affected by inadequately contained pollution incidents which enter the SuDS outfall systems. In extreme cases, this has potential to cause a long-term major adverse likely significant effect on part of a receptor considered overall to be of international to national value. Effects could potentially be regular, intermittent or cumulative. It is more likely however that the effect of such a pollution incident would be small in scale, temporary, minor, largely contained and diluted by the SuDS attenuation ponds, and would be reversible in the short-term. As such, an adverse likely significant effect arising from substantial pollution incident is considered unlikely.

*Additional Avoidance and Mitigation*

8.6.14. **Volume 1, Chapter 13: Water Resources, Flood Risk and Drainage** describes an outline surface water drainage strategy to ensure that the Proposed Development achieves at least greenfield surface water run-off rates through the use of surface water attenuation measures and SuDS, in accordance with national policy and guidance. Further details are set out in **Volume 1, Chapter 13**.

8.6.15. This includes the interception of water leaving the Site in attenuation features from which water entering the streams will be controlled. Although substantial pollution incidents are unlikely to occur during the operational phase, it is recommended that pollution control measures such as interceptor tanks and sediment traps are provided at critical points along the drainage infrastructure (e.g. as part of the road infrastructure, and in association with car parks) to further avoid risk of pollution entering watercourses.

8.6.16. The Proposed Development provides opportunities to reduce current levels of pollution likely to be affecting the quality of aquatic habitat provided by the streams and ditches within the Site, including those falling within the catchment of the River Arun, by replacing adjacent habitats currently dominated by intensively farmed agricultural land within the Site with new species-rich grassland, scrub, woodland and wetland habitats in accordance with those shown on the illustrative masterplan described in **Volume 1, Chapter 3:Description of the Proposed Development**. These measures have potential to reduce the existing level of nutrients and sediment that are currently entering the watercourses through existing agricultural run-off, in keeping with the objectives of the *2022 South East River Basin Management Plan* (**Ref 8-11**).

*Residual Effects*

8.6.17. With the above measures in place across the Site, it is considered that an adverse major likely significant effect on the River Arun downstream from the Site arising from pollution during the operational phase would be avoided. Subject to appropriate design of SuDS features and habitat enhancements along the stream corridors (see **Section 8.6.154 - 8.6.180** below), the Proposed Development would be expected to improve the quality of the water entering the watercourses at the Site and therefore the overall residual effect is near certain to be not significant **minor beneficial** at a local level.

## KEY ECOLOGICAL RECEPTOR: THE MENS SAC

### Overview

8.6.18. The Mens SAC is located approximately 10.8km to the south-west of the Site at its closest point, with the nearest development parcel to the SAC being located approximately 11km to the west. This 203.28ha SAC is designated for supporting Atlantic acidophilous Beech forests with Holly and sometimes also Yew in the shrub layer, for which this is considered to be one of the best areas in the United Kingdom. The area is also designated for supporting a significant population of Barbastelle bats. Barbastelles commute into the surrounding countryside using the woodland corridors which branch out from the SAC.

### Potential Effects

8.6.19. The principal risks to site integrity of The Mens SAC according to the Natural England Site Improvement Plan (**Ref 8-33**) are as follows:

- Forestry and woodland management – Pressure / threat to Beech forests on acid soils and Barbastelle bat from clear-felling and inappropriate management;
- Habitat connectivity – Pressure / threat to Barbastelle bat movements between sites;
- Invasive species – Threat to Beech forests on acid soils from invasive Rhododendron;
- Change in land management – Pressure / threat to Barbastelle bat foraging and commuting routes;
- Air pollution: risk of atmospheric nitrogen deposition - Threat to Beech forests on acid soils and Barbastelle bat habitat; and
- Public access / disturbance – Pressure / threat to Barbastelle bat habitat from lighting.

8.6.20. Due to the distance of the Site from the SAC, the absence of any direct habitat connections between the Site and the SAC, and existing influences on the SAC including those from existing residents of Horsham, and the nearby towns of Billingshurst, Haslemere, Pulborough and Midhurst, any direct major adverse likely significant effects on the SAC resulting from the Proposed Development are considered to be extremely unlikely. In accordance with Horsham District Council's EIA Scoping response, potential indirect effects of the Proposed Development for consideration in this assessment however include:

- Loss and fragmentation of small areas of bat foraging and commuting habitat potentially used by bats associated with the SAC; and
- Disturbance to foraging / commuting bats associated with the SAC from construction and operational phase lighting.

**Effect 1: Loss and fragmentation of small areas of bat foraging and commuting habitat potentially used by bats associated with the SAC**

Construction and Operational Phase

*Effects*

8.6.21. The Mens SAC is located approximately 10.8km to the south-west of the Site at its closest point, with the nearest development parcel to the SAC being located approximately 11km to the west. With regards to SACs in Sussex which qualify for designation on the basis of their bat interest, the *Sussex Bat Protocol* (**Ref 8-34**) identifies that:

*"There are two key impact zones from a Sussex Bat SAC:*
*— 6.5km Key conservation area – all impacts assessed*
*— 12km Wider conservation area – significant impacts or severance to flightlines to be considered*

*The 6.5km includes the Key conservation area in which all impacts must be considered as habitats within this zone are considered critical for sustaining the populations of bats within the SACs.*

*The 12km encompasses the wider conservation area which is the full extent of the range of foraging areas required by the bats."*

8.6.22. Paragraphs 4.36 and 4.37 of the Horsham District Local Plan Habitats Regulations Assessment (**Ref 8-35**) identifies that:

*"…The Mens SAC is important for its barbastelle populations and radio-tracking studies have been undertaken to identify core foraging areas. These reports have identified that the barbastelles of The Mens SAC forage to the east of the SAC, principally on the floodplain of the River Arun from close to Horsham in the north to Parham in the south. They also cross to the Adur floodplain. In some cases, the bats travelled up to 12.2km to visit foraging areas. The currently available radio-tracking evidence indicates that 75% of the bat population forage within 9km of the SAC although it is conceivable for barbastelle bats of the SAC to use a wider area for activities such as migrating between hibernation roosts and summer roosts.*

*Much of the western half of Horsham District, roughly the area west of the A24 as far south as Storrington and as far north as Horsham, lies within 12km of The Mens SAC. The western-most area also lies within 12km of Ebernoe Common SAC. This includes the settlements of Billingshurst, Pulborough, West Chiltington and Storrington. Development within the built-up areas of any of the settlements or villages within this zone is unlikely to materially interfere with commuting or foraging opportunities for barbastelle bats associated with either SAC. However, greenfield development in this part of the District could have an adverse effect if it led to the net loss of linear features in pastoral landscapes including deciduous woodland, wet meadows and waterbodies. Even if it did not lead to their loss but failed to provide an adequate physical buffer zone against construction and operational lighting (for example), it could still result in an adverse effect."* (our emphasis)

8.6.23. With regard to the above and the findings of the bat activity transect survey and static detector work carried out at the Site summarised in Section 8.4 above and detailed **Volume 2, Appendix 8.7: Bat Survey Report**, it is considered that the Site is of negligible importance for foraging Barbastelle bats roosting within The Mens SAC and that no adverse major likely significant effect would be likely to arise, either alone or in combination, as:

- The Site is located on the outer margin of the 12km wider conservation area, with the closest development parcel being located over 11km from the closest part of the SAC;
- Although Barbastelle is a far ranging bat species, work carried out by the Bat Conservation Trust identifies that Barbastelles have a mean core sustenance zone of 6.47km from their roost site (**Ref 8-36**);
- The Site is not located within, or particularly close to, the floodplains of the River Arun or River Adur;
- Studies indicate the 75% of the Barbastelle bat population forage within 9km of the SAC; and
- The Phase 2 bat activity survey carried out at the Site by HDA, summarised in Section 8.4 above and detailed **Volume 2, Appendix 8.7: Bat Survey Report**, recorded only occasional use of the Site by individual Barbastelle bats. Such levels of Barbastelle activity would be expected on a Site of this character in South East England regardless of the presence of The Mens SAC in the wider landscape.

*Additional Avoidance and Mitigation*

8.6.24. Although it is considered that the Site is of negligible importance for foraging Barbastelle bats roosting within The Mens SAC and no specific avoidance and mitigation measures are proposed in this regard, the Phase 2 bat activity survey carried out at the Site by HDA identified use of habitats by a variety of foraging and commuting bats. The effects of loss and fragmentation of habitats used by bats at the Site during the construction and operational phases of the Proposed Development are assessed in **Section 8.6.121 – 8.6.125** below and as such these effects are therefore not considered further in this Section.

*Residual Effects*

8.6.25. The Site is considered to be of negligible importance for foraging Barbastelle bats roosting within The Mens SAC, and therefore the Proposed Development will have a not significant **negligible** impact on the SAC, either alone or in combination with other plans and projects. The Site does however support foraging and commuting bats and measures to ensure maintenance of its suitability for this group following development, including maintenance of linear habitat corridors and key habitats such as woodland and stream corridors, are provided in **Section 8.6.121 – 8.6.125** below.

**Effect 2: Disturbance to foraging / commuting bats associated with the SAC from construction and operational phase lighting.**

Construction and Operational Phase

*Effects*

8.6.26. As identified in **Section 8.6.26** above, the Site is considered to be of negligible importance for foraging Barbastelle bats roosting within The Mens SAC and therefore at a distance of 10.8km from the SAC lighting arising from both the construction and operational phases of the Proposed Development will not have any adverse likely significant effect on this receptor.

*Additional Avoidance and Mitigation*

8.6.27. Although it is considered that the Site is of negligible importance for foraging Barbastelle bats roosting within The Mens SAC and no specific avoidance and mitigation measures are proposed in this regard, the Phase 2 bat activity survey carried out at the Site by HDA identified use of habitats by a variety of foraging and commuting bats. The effects of lighting on bats using the Site during the construction and operational phases of the Proposed Development are assessed in Sections

8.6.118 – 8.6.126 below, together with identification of avoidance measures where appropriate, and as such these effects are not considered further in this Section.

*Residual Effects*

8.6.28. The Site is considered to be of negligible importance for foraging Barbastelle bats roosting within The Mens SAC, and therefore the Proposed Development will have a not significant **negligible** effect on the SAC at a local level, both alone and in combination with other plans and projects during both construction and operation. The Site does however support foraging and commuting bats and measures to ensure maintenance of its suitability for this group following development are provided in subsequent sections below.

## KEY ECOLOGICAL RECEPTOR: COURTLAND WOOD LWS, SPARROW COPSE LWS AND OTHER UNDESIGNATED ANCIENT WOODLAND WITHIN AND ADJACENT TO THE SITE

### Overview

8.6.29. Courtland Wood LWS, Sparrows Copse LWS and the other areas of ancient woodland falling within and adjacent to the Site, i.e. Smith's Copse and Two Mile Ash Gill, are considered to be of district value. Ancient woodland is defined as any wooded area that has been continuously wooded since at least 1600AD and such habitats are regarded as irreplaceable under Paragraph 194 of the 2024 NPPF (**Ref 8-8**). These woodlands within and adjacent to the Site provide habitat for a range of protected and notable species including bats, birds, invertebrates and specialist plant species.

### Potential Effects

8.6.30. The Development Parameters show that none of the ancient woodland habitats falling within or adjacent to the Site will be lost as a result of the Proposed Development. The Development Parameters also show that the woodlands will be retained within areas of open space, with a minimum buffer of 15m provided between the ancient woodland and the closest development parcels[3]. Notwithstanding inclusion of these protective measures and in accordance with Horsham District Council's EIA Scoping response, potential adverse effects on the ancient woodland habitat for consideration in the absence of further avoidance or mitigation may include:

- Direct or indirect physical damage to retained trees through ground compaction, pollution, root severance, ground-level changes and changes to hydrology during the construction phase;
- Increased light and noise levels during construction and operational phases affecting the value of the retained ancient woodlands for wildlife;
- Damage to retained ancient woodland habitats resulting from an increase in recreational activity, tipping of garden waste and fertilizers and biocides from the proposed allotments entering Smith's Copse during the operational phase; and
- Loss of habitat connectivity between Smith's Copse and Courtland Wood LWS through new road infrastructure.

[3] The parameter plans show a minimum buffer width around Smith's Copse of 20m, around Two Mile Ash Gill of 15m, and around Courtland Wood LWS of 30m.

8.6.31. Each of these potential effects is considered in turn below, together with details of appropriate avoidance, reduction, mitigation and enhancement measures, as applicable.

**Effect 1: Direct and indirect physical damage to retained trees within the ancient woodlands**

Construction Phase

*Effects*

8.6.32. In the absence of mitigation and avoidance measures, effects on retained woodland trees during the construction phase may include direct damage (e.g. by reversing vehicles), ground compaction, pollution, root severance, ground level changes and impacts on woodland hydrology. Damage to individual trees may adversely affect their longevity or their potential ability to support nesting birds and invertebrates. Although near-certain in the absence of avoidance and mitigation measures, such major adverse effects are likely to be localised and temporary, affecting only a small proportion of the existing vegetation, and are likely to be reversible in the medium to long-term.

8.6.33. The effects of dust smothering on retained woodland areas during the construction phase are also considered in this section, although again, significant major adverse effects are extremely unlikely in view that any effects are likely to be localised and temporary, affecting only a small proportion of the existing vegetation, and are likely to be reversible in the short to medium-term.

*Additional Avoidance and Mitigation*

8.6.34. Notwithstanding the above, in line with *BS5837: Trees in Relation to Construction* and in accordance with the Arboricultural Impact Assessment submitted with the application (**Appendix 8-16**), avoidance measures should be employed during the construction phase to avoid risk of damage to trees within the ancient woodlands. In accordance with the Development Parameters, with the possible future exception of sensitively designed surface water attenuation features and footpaths and cycle links, no new hard landscaping or buildings will be constructed within a minimum 15m buffer from the woodland edge and no construction activities, storage of materials or movement of vehicles should occur within this buffer where not associated with the creation of any footpaths / cycle links or habitat creation works. The buffer area should be fenced off throughout the construction period.

8.6.35. In the event that new footpaths or cycle paths are to be created within any of the woodland buffers, where necessary these should be of a permeable substrate and 'no-dig' construction to ensure no impacts on the root protection areas of existing trees would arise. The advice of a suitably qualified arboriculturalist should be sought in this regard.

8.6.36. The surface water drainage strategy for the Proposed Development has been designed to avoid adverse effects on the hydrology of the ancient woodland habitats within and adjacent to the Site. Where new attenuation features are to be provided within the woodland buffer zones, these should be designed to avoid significant incursion into the root protection areas of nearby woodland trees, and be of a wildlife friendly design to provide new areas of habitat that complement the adjacent woodland.

8.6.37. As described in **Volume 1, Chapter 6: Air Quality** (and **Volume 2, Appendix 6.1: Construction Dust Assessment Methodology**) measures to avoid adverse effects of dust will be implemented during construction which will be effective in relation to the retained ancient woodland areas and other ecological receptors. These measures will be detailed in a Construction Environmental Management plan to be written and implemented for the Site.

8.6.38. In addition to the measures listed in **Volume 1, Chapter 6: Air Quality**, and in accordance with the provisions of Berkeley's *Group Sustainability Standard - Contractors* (**Ref 8-32**), additional measures to reduce dust during the construction phase should include:

- No burning of material anywhere on-site;
- Minimisation of dust generating activities;
- Location of dusty activities and stockpiles away from the stream corridors, woodland edges, hedgerows and any other sensitive receptors;
- Maintenance of construction traffic and plant in good working order and switched off when not in use; and
- Use of appropriately designed vehicles for materials handling.

8.6.39. It is also recommended that a 'toolbox' talk is provided to construction workers to make them aware of the presence of the LWS and other ancient woodland habitats, in addition to the measures to avoid indirect effects described above and below for this receptor.

*Residual Effects*

8.6.40. With the above measures in place together with those described in **Sections 8.6.122 to 8.6.124** below to avoid adverse effects of lighting, it is considered near certain that construction activities associated with the Proposed Development would not have a likely significant effect, and any effect on the integrity of the ancient woodland habitats within Courtland Wood LWS, Sparrows Copse LWS, Smith's Copse and Two Mile Ash Gill would be not significant and **negligible** at a Site level.

Operational Phase

8.6.41. The above works relate to the construction phase only. Significant major direct and indirect physical damage to retained ancient woodland habitats is highly unlikely to occur during the operational phase of the Proposed Development albeit the effects of local residents on the woodland during the operational phase are considered under Effect 3 below.

**Effect 2: Increased light and noise levels affecting value of the retained ancient woodlands for wildlife**

8.6.42. The effects of increased light and noise on wildlife associated with the retained ancient woodland during the construction and operational phases of the Proposed Development are assessed in relation to specific protected and notable species below (e.g. **Section 8.6.127**), together with identification of any impact avoidance or mitigation measures as appropriate. Relevant species include bats, [redacted] birds and invertebrates which are associated with the woodlands and other habitats within the Site. The effects of noise and lighting are therefore not considered further in this Section.

**Effect 3: Damage to retained ancient woodland habitats resulting from an increase in recreational activity, tipping of garden waste, and drift of fertilizers and biocides from the proposed allotments entering Smith's Copse during the operational phase**

Construction Phase

8.6.43. The construction phase of the Proposed Development is not expected to generate any substantial additional recreational pressure, tipping or fertilizers / biocides on the woodland habitats present within the Site. Such effects during the construction phase are therefore not considered further in this section.

Operational Phase

*Effects*

8.6.44. In the absence of mitigation, potential effects of the Proposed Development on the retained ancient woodland habitats within the Site could arise as a result of an increase in recreation, tipping of garden waste and fertilizer and biocide run-off from the allotments during the operational phase causing damage to woodland habitats and introduction of invasive species. This has potential to cause a small adverse likely significant effect on the integrity of the receptor.

*Additional Avoidance and Mitigation*

8.6.45. In order to avoid this effect and preserve the integrity of the woodland habitat, the landscape design of the retained ancient woodlands and surrounding open space should incorporate the following elements:

- As indicated in the Development Parameters and Illustrative Masterplan, undeveloped buffer strips of a minimum 15m in width, and in some instances substantially wider[4], will be maintained around the ancient woodlands within which no development activities will occur, with the exception of those specified in **Sections 8.6.35 – 8.6.37** above;
- Design of development areas should avoid residential curtilages directly backing on to woodland buffer areas, as described in the illustrative masterplan located in **Volume 1, Chapter 3: Description of the Proposed Development**;
- Where recreational access is provided within the ancient woodlands, access should be restricted to clearly demarcated prescribed footpaths to deter straying into the wider woodland areas and interpretive signage should be provided to increase public awareness of the sensitivity and value of the woodlands;
- The woodland buffers should be managed to encourage intervisibility between woodland habitats and the surrounding open spaces and nearby development to discourage use of the woodlands for fly-tipping and other antisocial behaviour;
- Scrub 'ecotones' should be established along selected woodland edges to create buffers to the woodland edge and discourage creation of informal paths into the woodland. Ecotones comprise a gradation from woodland to scrub to rough and meadow grassland habitats which complement the retained woodland in addition to providing biodiverse habitat in their own right. Within these scrub 'ecotones' coppiced Hazel and Small-leaved Lime trees should be included due to the recorded presence of Greater Butterfly-orchid;
- Use of fencing and the introduction of native spikey species such as Hawthorn, Blackthorn and Dog-rose should also be considered to control access into on-and off-site areas of ancient woodland;
- In addition to the provision of a minimum 20m manged buffer between the allotment area and Smith's Copse, the design of the allotments should include measures such as the provision and location of compositing facilities away from the woodland buffer, avoiding soil compaction and the use of permeable paving to reduce runoff. Additionally information should be provided to allotment holders regarding the responsible use of fertilisers and pest control and / or a designated 'organic' allotment area be provided where the allotments abut the woodland buffer.

[4] The parameter plans show a minimum buffer width around Smith's Copse of 20m, around Two Mile Ash Gill of 15m, and around Courtland Wood LWS of 30m.

It should be noted however that the current farming practices in the immediate vicinity of Smith's Copse are likely to result in substantially higher drift of fertilisers and pesticides into Smith's Copse than that likely to arise from the proposed allotments; and

- It is also recommended that residents and allotment holders are provided with 'living with wildlife' leaflets to inform them of the presence of the Local Wildlife Sites and other areas of woodland included on Natural England's Ancient Woodland Inventory, and how these can be enjoyed and protected. The leaflet would inform residents and allotment holders of the nature conservation interest and sensitivity of the habitats present, and measures that can be taken to avoid impacts on the associated features of nature conservation interest. This would include information on the responsible disposal of green waste, use of other areas of the Site and wider area for recreation and keeping cats indoors at dawn / dusk.

8.6.46. In addition, the Development Parameters provide opportunities to increase the value of the woodlands for wildlife such as:

- Management of Smith's Copse to halt garden creep from adjacent existing residential properties, improve boundary fencing and restore woodland habits in these areas;
- Management of all on-site ancient woodlands to include removal of debris, reinstatement of traditional management such as coppicing, control of invasive species, maintenance of deadwood habitats where safe to do so, and creation of glades, in addition to provision of features such as bat boxes, bird boxes and habitat piles. Potential management opportunities are outlined in **Figure 8-8: Ecological Opportunities Plan**; and
- Provision of new opportunities for wildlife and increased habitat connectivity within adjacent habitats currently dominated by arable land and species-poor grassland of low ecological interest. Habitat creation opportunities within these areas include provision of a mix of habitats complementing those occurring within the woodland such as species-rich grassland, scrub, trees, hedgerows and wetland habitats.

*Residual Effects*

8.6.47. Through implementation of the above measures, it is considered extremely unlikely that an adverse significant major effect on the integrity of the ancient woodlands due to human disturbance, tipping of garden waste and fertilizer and biocide run-off / drift from the allotments would occur, and any effect would be not significant **negligible** at a local level. Depending on the extent to which habitat creation measures are implemented in the surrounding open spaces, alongside securing long-term management of ancient woodland within the Site it is expected that development of the Site could result in beneficial enhancements to the ancient woodland habitats currently present.

**Effect 4: Loss of habitat connectivity between Smith's Copse and Courtland Wood LWS through new road infrastructure**

Construction Phase (continuing during Operational Phase)

*Effects*

8.6.48. In the absence of mitigation, the introduction of roads cutting through the network of existing hedgerows within the Site, has the potential to directly affect the habitat connectivity between two parcels of ancient woodland within the Site, namely Smith's Copse and Courtland Wood LWS. The Movement Parameter Plan shows a secondary road and key cycle route are proposed to be located between Smith's Copse and Courtland Wood LWS which will create gaps in the two hedgerows currently connecting these two woodland parcels. The secondary road and cycle route will create

gaps in the two hedgerows approximately 20m wide. To mitigate the presence of this road, the Landscape Parameter Plan shows the introduction of green corridor between the two woodland parcels.

8.6.49. In addition, the Landscape Parameter Plan includes retention of the existing ancient woodland parcels with green buffers with a minimum width of 15m however in general the buffer proposed around Smith's Copse is 20m, the buffer around Two Mile Ash Gill is 15m and the woodland buffer around Courtland Wood LWS is at least 30m and up to 50m in width. Connectivity between Courtland Wood LWS and the wider landscape to the north, south, and west is maintained through the retention of existing habitats including the Two Mile Ash Gill ancient woodland to the immediate south of the woodland, which connects to the treelined Downs Link proposed for additional green planting, which crosses the site from east to west.

8.6.50. The gaps created within the two hedgerows for the provision of the road and cycle access will be undertaken during the construction phase, however the gaps will be maintained during the operational phase of the development. In the absence of mitigation this has potential to cause a minor adverse effect on the ability of wildlife to move between the two woodland areas.

*Additional Avoidance and Mitigation*

8.6.51. In order to avoid this effect and maintain connectivity between these two woodland parcels and to the wider area, the landscape design of the retained ancient woodlands, and surrounding and interlying open space should incorporate the following elements:

- As indicated in the Development Parameters and Illustrative Masterplan, undeveloped buffer strips of a minimum 15m in width, and in some instances substantially wider, will be maintained around the ancient woodlands within which no development activities will occur, with the exception of those specified in **Sections 8.6.35 – 8.6.37** above;
- Design of development areas should avoid residential curtilages directly backing on to woodland buffer areas, as described in the illustrative masterplan located in **Volume 1, Chapter 3: Description of the Proposed Development**;
- Scrub 'ecotones' should be established along selected woodland edges to create buffers to the woodland edge and discourage creation of informal paths into the woodland. Ecotones comprise a gradation from woodland to scrub to rough and meadow grassland habitats which complement the retained woodland in addition to providing biodiverse habitat in their own right;
- The Landscape Parameter Plan includes the introduction of a green corridor between Smith's Copse and Courtland Wood LWS. It is proposed that this will comprise a mix of native hedgerows, woodland, scrub, orchard and species-rich grassland habitats and is indicated on the Illustrative Masterplan. Further to this, canopy connectivity across the secondary road will be explored through tree species selection to form a natural canopy bridge, with connectivity for small terrestrial animals maintained using mammal tunnels beneath the road and dropped kerbs. Potential management opportunities are outlined in **Figure 8-8: Ecological Opportunities Plan**;
- Lighting used at the junction of the road and green corridor should be sensitively designed to minimise effects on nocturnal wildlife and planting provided (or existing vegetation managed) to reduce risk of collision of vehicles with bats and birds by raising flight lines (also see **Section 8.6.122**);

- To minimise risk of collisions between vehicles and wildlife, Department of Transport 'Wild Animals Likely to Be in Road Ahead' signs[5] and / or other traffic calming measures should be provided (e.g. changes to surfacing, gate features etc) and speeds along this section of road restricted to no more than 30mph (WSP, 2026); and
- All new hedgerows are proposed to be retained within the public realm rather than private curtilages, ensuring long-term management and biodiversity delivery.

*Residual Effects*

8.6.52. Through implementation of the above measures, it is considered unlikely that an adverse major significant effect on the connectivity between the two ancient woodlands due to the introduction of the road and wider development would occur, and any effect would be not significant and **negligible** at a local level.

## KEY ECOLOGICAL RECEPTOR: NETWORK OF SECONDARY WOODLANDS, HEDGEROWS, MATURE TREES AND TREELINES

### Overview

8.6.53. This section considers the network of secondary woodlands, hedgerows, scrub, treelines and scattered mature trees within the Site. This excludes the areas of ancient woodland which are considered from **Section 8.6.290** above, and also excludes veteran trees which are considered separately from **Section 8.6.81** below.

8.6.54. The network of secondary woodlands, hedgerows, scrub, treelines and scattered mature trees present at the Site are considered to be of no more than local interest individually. These features do however combine to provide a substantial amount of habitat forming a network of corridors for the movement of wildlife within and around the Site and are considered in combination to be of district value. Associated species include bats, birds, reptiles and invertebrates.

### Potential Effects

8.6.55. The following potential effects of the Proposed Development have been identified which might, in the absence of mitigation measures, adversely affect the integrity of this receptor:

- Loss of secondary woodlands, hedgerows and trees of limited ecological importance in their own right;
- Severance of existing hedgerow corridors where crossed by roads / cycleways / footpath routes;
- Direct physical damage to retained secondary woodlands, hedgerows, trees and scrub and indirect damage through ground compaction, pollution, root severance, ground-level changes and loss of supportive habitat for associated wildlife; and
- Increased light and noise levels affecting the value of retained secondary woodlands, hedgerows, scrub and trees for wildlife.

**Effect 1: Loss of secondary woodlands, hedgerows and trees of limited ecological importance in their own right**

<u>Construction Phase (continuing during Operational Phase)</u>

[5] DOT signage reference 551.

*Effects*

8.6.56. The **Illustrative Masterplan** indicates that overall approximately 10.78km or 91% of the existing hedgerow network will be retained within the Proposed Development, predominantly within areas of open space and in green corridors around the development areas. Of the hedgerows meeting criteria for consideration as 'important' under the Wildlife and Landscape Criteria of the 1997 Hedgerow Regulations, it is expected that it will be possible to retain 39 of the total 41 of these currently present within the Site as indicated on **Illustrative Masterplan** and the emerging proposals for Christ's Hospital area, except where there is a need to remove limited sections, for example in order to provide crossing points for movement corridors across the Site.

8.6.57. Although the **Illustrative Masterplan** indicates that approximately 1.04km or 9% of the existing hedgerow network is expected to be lost to the development, predominantly to allow construction of roads and within development areas, the **Illustrative Masterplan** also provides opportunities to compensate this loss and to enhance the Site's hedgerow resource with new hedgerow planting within areas of open space and around development areas.

8.6.58. The majority of the secondary woodland within the Site will be retained within the Proposed Development with the exception of a small section of lowland deciduous woodland (approx. 0.02ha) which will be lost to provision of a road junction in the north-east of the Site. The findings of the supporting Arboricultural Impact Assessment (**Appendix 8.16**) indicate that a total of approximately 3 individual scattered mature trees and 6 tree groups will also be lost or partially lost to the Proposed Development.

8.6.59. These figures exclude trees identified as veterans which will all be retained and are considered separately from **Section 8.6.81** below. Where hedgerows and trees are expected to be lost, it should be noted that in addition to new hedgerow planting discussed above, the Development Parameters also allow opportunities for new scrub and tree (including woodland) planting within areas of formal and informal open space, structural landscape planting within road corridors, and within and around the development areas, as indicated on the **Illustrative Masterplan**.

8.6.60. Notwithstanding the new planting opportunities described above, in extreme circumstances (e.g. that new planting is not provided) the Proposed Development could potentially result in a permanent major adverse likely significant effect at up to a district level on the habitat resource and connectivity provided by these features. Such an effect is however unlikely to occur.

*Additional Avoidance and Mitigation*

8.6.61. In order to maintain the current value of the local secondary woodland, hedgerow, scrub, ditch and tree resource for the movement of wildlife and as a habitat resource in its own right it is recommended that:

- Wherever possible, loss of woodland, hedgerows, scrub and trees should be avoided or minimised, e.g. through use of existing hedgerow gaps for crossing points and pollarding / coppicing of trees alongside crossing points rather than removal;
- Crossing points through hedgerows should approach the hedgerow perpendicularly where possible to minimise any hedgerow removal requirement;
- All hedgerows lost to the Proposed Development should be replaced at a ratio of at least 1:1.25 unless alternative habitat provision would achieve the same nature conservation objectives in terms of opportunities for wildlife and connectivity. Opportunities for woodland, hedgerow, scrub and tree planting as part of the open space proposals in keeping with the Development

Parameters are illustrated in the **Illustrative Masterplan** which includes opportunities for new hedgerow and other linear planting (e.g. treelines and woodlands) within areas of informal open space and within a green network around development areas.

- New woodland, hedgerow, tree and scrub planting should be species-rich, using native species typical of the local area, sourced from stock of local provenance where available;
- Planting should be carried out during the construction phase of the Proposed Development in order to be functional within the early years of the operational phase;
- All retained hedgerows should be enhanced through infilling of gaps and implementation of appropriate management; and
- The long-term management of all retained and new woodland, hedgerow, scrub, and trees should be secured through inclusion in a management plan.

*Residual Effects*

8.6.62. Subject to implementation of the above measures, particularly in relation to the provision of new habitats, although there is likely to be a short-term adverse effect on this receptor during the construction phase while new habitats establish, no significant loss of habitat resource and opportunities provided by the local hedgerow and tree network would be expected to occur in the long-term. No adverse likely significant effect on the nature conservation interest of the Site's hedgerow and tree resource are therefore expected to occur in the long-term, and the overall residual effect on this receptor is expected to be not significant and **negligible** at a local level.

**Effect 2: Severance of existing hedgerow corridors where crossed by roads / cycleways / footpath routes**

Construction Phase (continuing during Operational Phase)

*Effects*

8.6.63. In the absence of avoidance and mitigation measures, severance of retained hedgerow corridors by roads, cycleways and footpaths could compromise the ability of the Proposed Development to maintain a coherent network of corridors for the movement of wildlife within and around the Site, and may reduce the value of the habitat present in its own right.

8.6.64. Assuming a worst-case scenario, in that the integrity of most retained hedgerow corridors are affected simultaneously, in the absence of mitigation and avoidance measures the Proposed Development could theoretically result in a permanent adverse major likely significant effect at up to a district level on the role that these habitats play in providing ecological connectivity across the Site and the wider area, albeit such a scenario is extremely unlikely to arise. Such an effect would generally be permanent but reversible, occurring during the construction phase and continuing throughout the operational phase.

*Additional Avoidance and Mitigation*

8.6.65. In order to avoid significant effects resulting from fragmentation of the hedgerow network, the following measures should be employed:

- The number of crossing points should be limited to those essential for movement of cars and people across the Site and of the minimum width required for safety;
- Crossing points should approach the hedgerow perpendicularly where possible to minimise any hedgerow removal requirement;

- Existing gaps should be used where possible to avoid loss of existing hedgerows, trees, scrub and other habitat of interest;
- Trees alongside crossing points should be pollarded /coppiced where possible to maximise tree retention;
- Infilling of existing gaps and provision of complementary habitats to strengthen unaffected sections of hedgerow and maintain a coherent hedgerow network; and
- Sensitive use of lighting, and additional planting at crossing points, to minimise effects on nocturnal wildlife and risk of collision with vehicles by raising flight lines of bats and birds (also see **Section 8.6.122** below).

8.6.66. In addition, there are extensive opportunities for creation of new hedgerows and linear habitats secured through the Development Parameters and illustrated on the **Illustrative Masterplan**. Subject to appropriate detailed design the Proposed Development would ensure a coherent network of habitat corridors is maintained around the Site.

*Residual Effects*

8.6.67. With the above measures in place, it is considered extremely unlikely that there would be any significant loss of habitat connectivity at a local level as a result of providing road, footpath and cycle way crossings through retained hedgerows and an adverse major likely significant effect is not expected to arise. The overall residual effect on this receptor is therefore expected to be not significant and **negligible** at a local level.

**Effect 3: Direct physical damage to retained secondary woodlands, hedgerows, trees and scrub and indirect damage through ground compaction, pollution, root severance, ground-level changes and loss of supportive habitat for associated wildlife**

Construction Phase

*Effects*

8.6.68. Construction phase effects on retained secondary woodlands, hedgerows, scrub and trees may include direct damage, ground compaction, root severance, ground level changes and loss of supportive habitat for associated wildlife as well as indirect effects from dust smothering. Damage to individual trees may adversely affect their longevity or their ability to support wildlife such as roosting bats, nesting birds and invertebrates.

8.6.69. Although full details for protection of retained woodland, hedgerows and trees are not available at this stage, it is noted that the majority of retained woodlands, hedgerows and trees are located within areas of proposed open space as shown on the Landscape Parameter Plan.

8.6.70. Nevertheless, assuming a realistic worst-case scenario, although damage would be near-certain in the absence of avoidance and mitigation measures, such incidents are likely to be localised and temporary, affecting only a small proportion of the existing vegetation, and are likely to be reversible in the medium to long-term.

*Additional Avoidance and Mitigation*

8.6.71. Measures to avoid adverse effects of dust on retained vegetation both within and adjacent to the Site are described in **Volume 1, Chapter 6: Air Quality** and further measures are set out in Berkeley's *Group Sustainability Standard - Contractors* (**Ref 8-32**) as summarised in **Sections 8.6.12 and 8.6.39** above. It is considered that through implementation of these measures, adverse

effects of dust smothering on retained trees, scrub and hedgerow habitats during the construction phase can be avoided

8.6.72. Works in the vicinity of retained trees, hedgerows and scrub should be carried out in accordance with "*BS5837: Trees in Relation to Construction*" (**Ref 8-18**), unless otherwise carried out under an Arboricultural Method Statement approved by the Local Planning Authority.

8.6.73. The woodland, hedgerows and treelines associated with the Site mostly sit adjacent to intensively farmed land of limited wildlife value with associated semi-natural habitats being restricted to narrow strips comprising managed grassland, tall ruderals and / or ditches. It is recommended that corridors of semi-natural habitat that complement the woodland, hedgerows and treelines are retained and where possible enhanced through provision of a wider buffer of semi-natural habitats such as rough and / or meadow grassland. In the case of hedgerows, the buffer should have a minimum width of 3m to allow for management. The **Landscape Parameter Plan** and **Illustrative Masterplan** indicate that this is achievable in most instances. Along with the cessation of deleterious agricultural practices currently associated with several of the hedgerows and woodland edges at the Site, such as ploughing and application of agrochemicals, thus improving the rooting areas of the associated hedgerow and trees, the extension of semi-natural habitats would be expected to improve the value of the retained hedgerows and treelines for associated species including bats, birds and invertebrates.

*Residual Effects*

8.6.74. Following implementation of the avoidance measures described above, any adverse major likely significant effect arising from direct and indirect damage to retained secondary woodland, hedgerows, scrub, treelines and individual trees during the construction phase is extremely unlikely to arise. The residual effect on this receptor is therefore considered to be not significant and **negligible** at a local level.

Operational Phase

*Effects*

8.6.75. During the operational phase the ecological integrity of retained woodland, hedgerows and trees could be compromised where adjacent land uses are inappropriate, for example where a retained woodland backs onto a residential property it may be vulnerable to tipping of garden waste or garden creep, or where a hedgerow forms part of a residential curtilage it may be vulnerable to over-management or removal.

8.6.76. The magnitude of any such effect is difficult to foresee with any accuracy and the Landscape Parameter Plan and Illustrative Masterplan indicate that the majority of retained woodland and hedgerows fall within strategic and structural open space, but assuming a worst-case scenario where all retained hedgerows and trees are affected in this manner, this would be likely to have a permanent major adverse likely significant effect at a district level, albeit extremely unlikely.

*Additional Avoidance and Mitigation*

8.6.77. Notwithstanding the above, where possible the following measures should be incorporated into the detailed design for the Proposed Development in order to protect the integrity and maximise the value of the retained hedgerow and tree resource:

- Design of development areas should avoid residential curtilages directly backing on to secondary woodland areas;
- The development layout should be designed to provide intervisibility between woodland habitats and surrounding open spaces to discourage use of the woodlands for fly-tipping and other antisocial behaviour;
- Scrub ecotones and fencing should be established along selected woodland edges to create buffers to the woodland edge and discourage creation of informal paths into the woodland;
- Retained hedgerows should not form the curtilage of residential dwellings;
- Retained mature trees should be located outside of residential curtilages;
- Adequate space to manage retained hedgerows (minimum width of 3m) should be maintained between the hedgerow and built development;
- Where possible, complementary habitats such as rough / meadow grassland or other habitats of wildlife interest should be created adjacent to retained hedgerows and woodland edges; and
- Management of all retained and newly created woodland, hedgerow, scrub and trees should be secured through inclusion in a management plan to ensure their long-term value to wildlife.

*Residual Effects*

8.6.78. Following implementation of the avoidance measures described above, an adverse major likely significant effect arising from direct and indirect damage to retained secondary woodlands, hedgerows, scrub, treelines and scattered trees during the operational phase of the Proposed Development is extremely unlikely to occur. The residual effect on this receptor is therefore expected to be not significant and **negligible** at a local level.

**Effect 4: Increased light and noise levels affecting the value of retained secondary woodland, hedgerows, ditches, scrub and trees for wildlife.**

8.6.79. The effects of increased light and noise on wildlife using retained secondary woodland, hedgerows and trees during the construction and operational phases of the Proposed Development are assessed in relation to specific protected and notable species below (e.g. **Section 8.6.127**), together with identification of any necessary avoidance and mitigation measures. Relevant species include bats, [redacted], birds and invertebrates. The effects of noise and lighting are therefore not considered further in this Section.

## KEY ECOLOGICAL RECEPTOR: VETERAN TREES

### Overview

8.6.80. 14 individual veteran trees have been identified within the Site, comprising Oak trees predominantly located within hedgerows throughout the Site. The locations of all the veteran trees within the Site are identified within the Arboricultural Impact Assessment submitted in support of this application (**Appendix 8.16**). The veteran trees are considered to be of low district value in combination due to their longevity and value for a range of species and are considered separately in this assessment to the other scattered trees, tree lines and woodland trees discussed above in **Section 8.6.54 – 8.6.80**, in view of planning policy and Natural England Standing Advice which recognises veteran trees as 'irreplaceable' features. Individually the trees are considered to be of no more than moderate local value in isolation.

**Potential Effects**

8.6.81. The Land Use Parameter Plan, Landscape Parameter Plan and Illustrative Masterplan indicate that it will be possible to retain all veteran trees within the network of greenspace. In the absence of avoidance and mitigation effects on veteran trees arising from the Proposed Development however may include:

- Direct loss of veteran trees and deterioration of retained trees through loss of associated habitat;
- Direct or indirect physical damage to retained veteran trees through ground compaction, pollution, root severance, ground-level changes and impacts on hydrology during the construction phase; and
- Increased light and noise levels affecting the value of retained veteran trees for wildlife during the construction and operational phases.

8.6.82. These potential effects are considered below, together with details of appropriate avoidance, reduction, mitigation and enhancement measures, as applicable.

**Effect 1: Direct loss of veteran trees and deterioration of retained trees through loss and damage to associated habitat**

Construction and Operational Phases

*Effects*

8.6.83. The Land Use Parameter Plan, Landscape Parameter Plan and emerging proposals allow for the retention of all the identified veteran trees at the Site within areas of open space, affording opportunity for suitable standoff buffers from adjacent development in line with the advice of the Arboricultural Impact Assessment (**Appendix 8.16**) and retention or creation of supportive habitat. This is also indicated on the Illustrative Masterplan. This will ensure that a high proportion of the habitat associated with these trees, such as cracks, crevices and deadwood is maintained, together with their ability to support associated species such as bats, birds and invertebrates.

8.6.84. Nevertheless, there will be a risk of a loss of valuable veteran features such as rotten and dead limbs, through arboricultural management for health and safety where these trees are located close to development areas or publicly accessible open areas, roads, cycleways and footpaths during the construction and operational phases.

8.6.85. The loss of hedgerow sections and areas of woodland, scrub and rough grassland hedgerow bases from the vicinity of retained veteran trees could also result in an overall reduction in the extent of supporting habitat currently complementing these trees.

8.6.86. In addition, during the operational phase the ecological integrity of retained veteran trees could be compromised where inappropriate levels or types of recreation beneath the trees results in soil compaction, poor establishment of complementary semi-natural habitats or pressure for tree safety works.

8.6.87. In the absence of mitigation, a reduction in the overall habitat resource from the Site through the loss or deterioration of retained veteran trees would be expected to affect the overall integrity of the receptor as a whole and its ability to support notable associated species. In the absence of avoidance, mitigation and compensation measures, in the unlikely event that all veteran trees are affected this is expected to constitute a long-term adverse likely significant effect.

*Additional Avoidance and Mitigation*

8.6.88. In order to avoid loss of veteran trees and avoid and mitigate the effects of deterioration of retained veteran trees through loss of supportive habitat, the following measures are recommended:

- All veteran trees should be retained within the Proposed Development;
- Wherever possible, the risk of deterioration of veteran trees should be minimised through sensitive detailed design of development parcels and open space proposals in the vicinity of each tree, with a suitable buffer maintained from adjacent development around the tree. Unless otherwise agreed with a suitably qualified arboriculturalists and ecologists buffer zones should be established in accordance with Natural England and the Forestry Commission's Standing Advice for ancient woodland and veteran and ancient trees (**Ref 8-20**);
- Buffer zones should be free of development, located outside of residential curtilages, and comprise retained or newly created semi-natural habitats such as rough and meadow grassland in order to provide opportunities for associated wildlife such as foraging bats and pollening / nectaring invertebrates. In most instances new tree planting should be avoided within the buffer zones;
- Corridors of habitat should be retained or created between the veteran trees and the wider habitat network; and
- The Land Use Parameter Plan and Landscape Parameter Plan indicate that the majority of retained veteran trees fall within strategic and structural open space. Notwithstanding this, in heavily trafficked areas consideration should be given to use of fencing (or other barriers to movement) around veteran and ancient trees to avoid need for tree safety works. Further measures to dissuade regular use of the buffer zones could include access control measures such as strategic placement of fallen limbs / arisings from tree management elsewhere within the Site, and provision of educational materials such as interpretative signage to encourage responsible enjoyment.
- A veteran tree management strategy should be prepared as part of a LEMP at an appropriate stage to secure the long-term management of retained veteran trees. This could include the following:
    - Management of high-quality standard trees and planting of new native trees to ensure future generations of mature and veteran and ancient trees;
    - Implementation of 'haloing' around mature and veteran trees to remove competing young trees and scrub and ensure successive generations of veteran and ancient trees;
    - 'Veteranisation' of selected retained semi-mature and mature trees within the Site through the use of coronet cuts or bark-ringing to promote additional deadwood and woodland structural diversity; and
    - Creation of sap runs on other trees to provide an additional foraging resource for invertebrates.

8.6.89. In addition to the above, the Land Use Parameter Plan and Landscape Parameter Plan secure the opportunities for provision of substantial areas of new woodland, structural landscape planting and new areas of informal open greenspace within a network of green corridors around the development areas. These provide opportunities for in the region of 7.3ha new woodland and scrub planting plus extensive standard tree planting throughout the Site as indicated on the **Illustrative Masterplan**. In the long-term this would be expected to increase the resource of mature and veteran trees at the Site.

*Residual Effects*

Following implementation of the avoidance measures described above, an adverse likely significant effect arising from direct loss and deterioration of veteran trees is extremely unlikely to arise. The residual effect is expected to be not significant and **negligible** at a local level at both the construction and operational phases.

**Effect 2: Direct or indirect physical damage to retained veteran trees through ground compaction, pollution, root severance, ground-level changes and impacts on hydrology.**

Construction Phase Only

*Effects*

8.6.90. With the exception of limited works including creation of new footpaths and cycleways, no new hard landscaping, ground level changes or buildings will be constructed within the buffer zones of the identified veteran trees. In the absence of avoidance and mitigation measures however, construction phase effects may include direct damage, ground compaction, pollution, root severance and impacts on the water resource available. In the absence of mitigation, this damage may adversely affect the longevity of the trees resulting in an adverse likely significant effect. Such incidents are however more likely to be temporary and are likely to be reversible in the medium to long-term.

*Additional Avoidance and Mitigation*

8.6.91. Measures should be employed during the construction period to avoid damage to veteran and ancient trees in accordance with the current "*BS5837: Trees in Relation to Construction*" and *Natural England Standing Advice* (**Ref 8-18**), which affords extended 'buffer zones' to veteran and ancient trees. This should include use of tree protection fencing around RPAs / buffer zones, responsible storage of materials and construction practice e.g. no fires within 20m of the trunk of a retained tree. These measures should be detailed within an Arboricultural Method Statement to be secured by condition.

8.6.92. Where appropriate, works in the vicinity of veteran trees should also be subject to the wider recommendations contained within *Natural England Standing Advice* (**Ref 8-20**) which generally precludes new hard landscaping, ground level changes or buildings within the buffer zone of veteran trees. Although the Illustrative Masterplan indicates that encroachment of development into tree buffer zones can be avoided, if an incursion into the extended buffer afforded to a veteran tree is proposed at the detailed design stage, the advice of a suitably qualified arboriculturalist and ecologist should be sought to ensure that no loss or deterioration of the tree will arise. This may include measures such as redesign to avoid any such incursion, extension of the buffer elsewhere to ensure continued provision of complementary habitats, use of no-dig or innovative construction techniques and / or compensatory measures to improve the integrity of the tree.

8.6.93. Adverse effects of dust on veteran trees should be avoided through implementation of the dust control measures during construction works set out in **Sections 8.6.38 – 8.6.40** above.

*Residual Effects*

8.6.94. With the above measures in place, it is certain that the proposed construction activities would not have an adverse likely significant effect, and the effect on the integrity of the veteran trees would be not significant and **negligible** effect at a Site level.

**Effect 3: Increased light and noise levels affecting the value of retained veteran trees for wildlife**

8.6.95. The effects of increased light and noise on wildlife using retained trees during the construction and operational phases of the Proposed Development are assessed in relation to specific protected and notable species below (e.g. in **Sections 8.6.132 – 8.6.133**), together with identification of any necessary avoidance and mitigation measures. Relevant species include bats, birds and invertebrates. These measures should be applied to proposals in the vicinity of veteran trees and as such these effects are therefore not considered further in this section.

## KEY ECOLOGICAL RECEPTOR: BATS

### Overview

*Roosting bats*

8.6.96. A number of confirmed and possible bat roosts have been identified within individual trees (T) and buildings (B) within and adjacent to the Site during the Phase 2 bat roost survey work[6]. These are:

- B12 supports a confirmed occasional / transitory roost for low numbers of Common Pipistrelle and an individual Soprano Pipistrelle. In addition, B12 supports a probable occasional / transitory roost for an individual Brandt's bat;
- Tree 216 supports a confirmed occasional / transitory roost for low numbers of Common Pipistrelle and Soprano Pipistrelle. In addition, Tree 216 supports a probable occasional / transitory roost for an individual Bechstein's bat;
- Tree 188 supports probable occasional / transitory roosts for two Common Pipistrelle bats and an individual Soprano Pipistrelle;
- B6, B16 and Trees 20 and 207 support confirmed / probable occasional / transitory roosts for two Common Pipistrelle bats;
- Trees 95, 217 and 349 support confirmed / probable occasional / transitory roosts for individual Common Pipistrelle bats; and
- Trees 53 and 254 support probable bat roosts for unidentified bat species.

8.6.97. In addition to the bat roosts described above, a number of other buildings and trees have been identified as having low or higher potential to support roosting bats but have not been found to support active roost sites to date. The locations of the confirmed and possible bat roosts, and the features having potential to support roosting bats are shown in **Figures 8-3a** and **8-3c**.

8.6.98. Although only relatively small, low status roosts pertaining to relatively common and widespread bat species have been recorded to date, due to the extent of bat roosting opportunities present the Site is considered to be of up to high local value for roosting bats.

*Foraging and commuting bats*

8.6.99. The suite of bat activity transect, automated and dusk emergence surveys confirmed the presence of at least nine bat species using the Site on at least an occasional basis for foraging and

[6] It should be noted that whilst the survey work to hand is considered adequate to support this assessment of the likely effect of the Proposed Development on bats, bat surveys will be updated in 2025/2026 with results provided to the LPA on completion of the surveys.

commuting[7]. The majority of activity related to relatively common and widespread species including Common Pipistrelle and Soprano Pipistrelle bats. The majority of Common Pipistrelle and Soprano Pipistrelle activity was associated with the Downs Link crossing east-west through the south of the Site and the woodland belts in the north of the Site. Noctule bats, *Myotis* sp., Brown Long-eared bat, Serotine and Leisler's bats were also recorded from similar habitats on a less frequent basis. In addition, Barbastelle and Nathusius' Pipistrelle bat were recorded using the survey area during the automated detector surveys.

8.6.100. Although the Site was considered to support only low to moderate levels of bat foraging and commuting activity, due to its relatively large size and the presence of at least 9 bat species the Site is considered to be of high local value for foraging and commuting bats.

8.6.101. A summary of bat activity recorded during the bat activity transect surveys is provided in **Figure 8-4** and the full findings of the bat survey work are provided in the Bat Survey Report provided in **Volume 2, Appendix 8.7** and the Christ's Hospital Ecological Appraisal provided in **Volume 2, Appendix 8.4**.

**Potential Effects**

8.6.102. The Land Use Parameter Plan and Illustrative Masterplan indicate that 1 feature supporting roosting bats (B12) will be lost as a result of the Proposed Development. In addition, removal of buildings and trees not found to support roosting bats to date but containing suitable features will reduce opportunities for future colonisation of these features by roosting bats, and loss of hedgerows, tree and woodland habitats has the potential to affect foraging and commuting bats and retained roost sites.

8.6.103. Potentially significant minor adverse effects on bats arising from the Proposed Development are therefore:

- Injury / mortality of roosting bats, destruction or abandonment of roosts and loss of bat roost opportunities through building demolition and felling of trees with bat roost potential.
- Mortality of foraging / commuting bats and effects on foraging and commuting habitat through habitat loss and fragmentation and increased light levels.

8.6.104. These are discussed below, together with details of appropriate avoidance, reduction, mitigation and enhancement measures, as applicable.

**Effect 1: Injury / mortality of roosting bats, destruction or abandonment of roosts and loss of bat roosting opportunities**

Construction and Operational Phases

*Effects*

8.6.105. The Land Use Parameter Plan and Illustrative Masterplan indicate that the following identified bat roosts will be lost as a result of the proposals:

[7] It should be noted that whilst the survey work to hand is considered adequate to support this assessment of the likely effect of the Proposed Development on bats, bat surveys will be updated in 2025/2026 with results provided to the LPA on completion of the surveys.

- **B12**: A confirmed occasional / transitory roost for low numbers of Common Pipistrelle and an individual Soprano Pipistrelle. In addition, B12 supports a probable occasional / transitory roost for an individual Brandt's bat;

8.6.106. In addition, a number of buildings and trees having potential to support roosting bats but not found to support active roost sites to date are expected to be lost, through Site clearance for development, or as a result of health and safety management works to trees. In the absence of mitigation, the loss of the above active roosts (known roosts) and other roosting opportunities (where bats have been found to be absent) would be near certain to result in an adverse likely significant effect on bats at a local level through a reduction in the availability of roosting habitat from the Site.

8.6.107. In addition, as known bat roosts are to be lost from B12, it will be necessary to avoid injury or killing of bats to comply with nature conservation legislation and maintain the favourable conservation status of bats within the Site and wider area.

*Additional Avoidance and Mitigation*

8.6.108. A detailed description of measures to mitigate the effects of the Proposed Development on bats is given in the Bat Survey Report in **Volume 2, Appendix 8.7** and the Christ's Hospital Ecological Appraisal in **Volume 2, Appendix 8.4**. This gives consideration to replacement of the lost roost sites, timing of works and suitable working practices for demolition / felling of roost sites. Key elements are identified below together with further consideration of the effects of the Proposed Development on future opportunities at the Site for roosting bats. The mitigation and avoidance measures outlined should be subject to review following any other updated survey work carried out prior to each phase of the Proposed Development commencing.

8.6.109. To provide replacement opportunities for bats associated with the affected roost sites prior to construction commencing, bat boxes should be installed on suitable retained trees within the Site in the vicinity of the existing roosts to be lost. Initial replacement roost mitigation for the roosts to be lost will comprise (or similar):

- 2x Greenwood Ecohabitat Two Crevice Bat Box; and
- 1x Vincent Pro Bat Box.

The bat boxes described would mitigate for the loss of bat roosting opportunities during the Site clearance / demolition works and would be retained on completion of the Proposed Development in addition to the permanent roost features provided in new buildings (see below).

8.6.110. Following demolition as indicated on the Buildings Proposed to be Demolished Plan / Site clearance, measures to ensure the long-term availability of roost sites should be incorporated within new buildings across the Site. Suitable features to be included within the Proposed Development are proportionate to current understanding of the roosts affected. In summary, such features would include:

- A minimum of one dedicated feature such as Schwegler 1FR Bat Tubes or 'Habibat' type box incorporated into south- to west-facing elevations.
- A minimum of two 20mm x 100mm gaps under wooden cladding incorporated into south- to west-facing elevations (or retention / creation of mortise and tenon crevice features associated with B12).
- A selection of other opportunities for crevice dwelling bats (a minimum of two) provided in a variety of locations. These may include a selection of:

Provision of 20mm x 100mm gaps beneath roof and ridge tiles to allow access by bats to the underfelt below. Alternatively dedicated bat access tiles could be installed to perform a similar function; and

Provision of 20mm x 200mm gaps along soffit boards providing access to the soffit box (installing soffit bat boxes if desired) or the internal roof space where appropriate.

8.6.111. Where any features such as crevices for roosting bats are provided in association with the buildings, bitumastic (traditional) roofing felt should be used to avoid entanglement of bats.

8.6.112. Unless further survey indicates otherwise, demolition / tree felling works affecting the recorded roosts should be carried out during spring or autumn to avoid the times of year when bats are most susceptible to disturbance and be carried out using suitable working practices to avoid death or injury of any bats present (detailed in **Volume 2, Appendix 8.7: Bat Survey Report**). Where appropriate these works should be informed by updated surveys / monitoring of recorded roosts in order to ensure that the mitigation measures reflect the status of bats at the time of development. All works affecting bat roosts will need to be carried out under an EPS licence, to be obtained from Natural England. Further details of mitigation to protect roosting bats at the Site are provided in **Volume 2, Appendix 8.7: Bat Survey Report**.

8.6.113. The Proposed Development would provide opportunities to create new roost sites on new buildings and retained trees in addition to those prescribed for replacement of the bat roosts being lost, which would increase opportunities for roosting bats at the Site. The specification and location of other bat boxes and features should be determined during detailed design, through consultation with an appropriately qualified and experienced bat ecologist.

8.6.114. The integrity of retained roosting opportunities and replacement roost sites should also be secured in the long-term through the maintenance of connections to commuting and foraging habitat and sensitive use of lighting throughout the construction and operational phases. Pending agreement with Natural England over the location of the replacement roost features, the Development Proposals indicate that this is achievable.

*Residual Effects*

8.6.115. Through implementation of the above measures to protect individual bats during construction and maintain roosting opportunities within the Proposed Development, no adverse effect on the favourable conservation status of the local bat population would be expected to arise and no minor adverse likely significant effect would be expected to arise. It is therefore considered near certain that the residual effect on roosting bats during both the construction and operational phases would be not significant and **negligible** at the Site level.

**Effect 2: Mortality of foraging / commuting bats and effects on foraging and commuting habitat through habitat loss and fragmentation and increased light levels**

Construction and Operational Phases

*Effects*

8.6.116. In the absence of avoidance and mitigation measures, loss of habitats from the Site currently used by foraging and commuting bats could both reduce the amount of habitat available as a whole and reduce the ability of these features to provide a network of corridors for the movement of bats within and around the Site.

8.6.117. During the construction and operational phases, fragmentation by roads of habitat corridors used by foraging and commuting bats, and unsympathetic lighting within or adjacent to retained bat foraging and commuting habitat, including the woodlands, hedgerows, mature trees and scrub, could also lead to a higher incidence of bat mortality through collisions at road crossings and an overall decrease in the available habitat for foraging and commuting bats, particularly for light-intolerant species.

8.6.118. Assuming a worst-case scenario, in that the integrity of all suitable habitats within the Site were affected simultaneously, this would be likely to result in a moderate adverse likely significant effect, albeit this is extremely unlikely to occur. Such an effect would generally be long-term but reversible, occurring during the construction phase and continuing throughout the operational phase.

*Avoidance and Mitigation*

8.6.119. The development of the Site will result in the loss of limited areas of foraging habitat within the development areas where buildings and hardstanding take the place of hedgerows and field margins, mature trees, rough grassland and ditches. A network of features suitable for foraging and commuting bats will however be retained within the Proposed Development as shown on the Landscape Parameter Plan and Illustrative Masterplan, this includes the retention of the ancient woodlands, the majority of hedgerows and mature trees around the Site, maintenance of strong habitat corridors through the north of the Site, between the ancient woodlands and along the Downs Link in the south of the Site, and a number of other new green corridors passing through and around development areas.

8.6.120. Where appropriate, the following measures should also be implemented to avoid bat mortality and maintain favourable conditions and maximise new opportunities for foraging and commuting bats:

- Use of nectar and pollen-rich species in planting schemes in order to increase abundance of invertebrate prey;
- Sympathetic retention of existing vegetation and new landscape planting where habitat corridors are crossed by roads, including establishment of standard trees at strategic locations, to raise the flight path of commuting bats where possible;
- Avoidance of lighting beyond the minimum level required for safety where roads cross through or pass adjacent to existing and newly created commuting and foraging habitats; and
- No external lighting is proposed on the sports pitches.

8.6.121. In order to maintain the integrity of retained and new foraging and commuting habitat at the Site for bats and other nocturnal wildlife and in accordance with the Bat Conservation Trust and Institute of Lighting Practitioners guidance (**Ref 8-37**), the following external lighting measures should be implemented during the construction and operational phases of the Proposed Development:

- Avoidance of night-time illumination of areas of retained bat foraging and commuting habitats (including woodland, watercourses, hedgerows, scrub and mature trees) throughout the construction phase by establishing Site compounds, floodlighting and security lighting away from these habitats and using directional and hooded lighting to avoid light spill into these areas;
- Use of only the minimum amount of light required for safety and amenity, minimising upward reflected light;
- No bare bulbs or upward-pointing lights. The spread of light should be kept near or below the horizontal (luminaires with a negligible or zero Upward Light Ratio);

- Use of LED luminaires with warm white narrow-spectrum bulbs <2700k to reduce blue light component;
- Light sources should feature peak wavelengths higher than 550nm.
- Avoidance of light-spill into adjacent areas through luminaire design or with accessories, such as hoods, cowls, louvres and shields to direct the light;
- Column heights should be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards;
- For pedestrian lighting, use of waymarking inground markers (low output with cowls or similar to minimise upward light spill) to delineate path edges should be considered. The use of bollard or low-level downward-directional luminaires is strongly discouraged;
- Where necessary, use of embedded road lights to illuminate roadways and light only high-risk stretches of roads such as crossings and merges; and
- Limiting the times that lights are on to provide some dark periods for wildlife through use of timers and / or automatic dimmers to reduce lighting outside times of peak use.

8.6.122. It is recommended that the lighting scheme for the operational phase of the Proposed Development is reviewed by a suitably qualified ecologist at the detailed design stage to ensure that no adverse effects on bat foraging and commuting habitat and other ecologically sensitive areas is likely to arise.

8.6.123. The new areas of informal open space proposed within the Site will provide extensive habitat creation opportunities as identified in the **Illustrative Masterplan** and discussed above and below. Subject to appropriate design this has the potential to provide substantial enhancements to the resource of bat foraging and commuting habitat within the Site in the long-term

*Residual Effects*

8.6.124. Following the implementation of the measures described above, an moderate adverse likely significant effect on foraging and commuting bats arising from loss and fragmentation of habitat and increased lighting during both the construction and operational phases would be expected to be avoided and the overall residual effect on foraging and commuting bats is near certain to be not significant and **negligible** at a local level. Subject to appropriate design of new key habitat corridors and informal open spaces, the development may provide enhanced foraging habitat for bats in the long-term.

## KEY ECOLOGICAL RECEPTOR: BIRDS

### Overview

8.6.125. The breeding and wintering bird surveys showed the habitats of greatest interest within the Site to include the woodland, hedgerows, mature trees and grassland habitats. The assemblage of breeding and wintering birds recorded is likely to be broadly representative of the typical avifauna of similar habitats in the wider area which are relatively common and widespread in the surrounding landscape. Due to its relatively large size and the presence of breeding and wintering birds of conservation concern however the Site is considered to be of high local value for birds.

**Potential Effects**

8.6.126. The potential effects of the Proposed Development on the ornithological interest of the Site for consideration in this section are:

- Effects on nesting birds during construction and operational phases, including direct physical damage and indirect effects of disturbance on new and retained habitats; and
- Loss and fragmentation of habitats including trees, hedgerows, scrub and open farmland during the construction phase.

8.6.127. Each of these potential effects of the Proposed Development is considered in turn below.

**Effect 1: Effects on nesting birds through direct physical damage and indirect effects of disturbance on new and retained habitats.**

Construction Phase

*Effects*

8.6.128. Adverse effects of construction on breeding birds could potentially arise from a number of sources including:

- Direct damage to active bird nests, their eggs or young as a result of clearance of vegetation or land;
- Use of loud machinery in, or in proximity to, retained breeding habitats (e.g. trees, hedgerows or scrub);
- Loud activities such as pile driving in, or in proximity to breeding habitat; and
- Light spill from workers compounds, security lighting or floodlights used for night-time working.

8.6.129. Assuming a worst case scenario in that the integrity of all habitats were affected simultaneously, this would result in a minor adverse likely significant effect albeit extremely unlikely, reversible and temporary during the construction phase.

*Additional Avoidance and Mitigation*

8.6.130. In order to avoid direct effects on nesting birds and contravention of nature conservation legislation, all building demolition, tree felling, ground clearance, and clearance of hedgerows and scrub should be carried out outside of the bird nesting season (generally taken as March to September inclusive). In the event that this is not possible, these works should be supervised by a suitably qualified ecologist who would check for nesting birds prior to and during works. In the event that nesting birds are found to be present, it may be necessary to delay further clearance works in the vicinity of the nest until nesting is completed and young birds have fledged. These measures should be incorporated within the CEMP to be secured by planning condition.

8.6.131. In addition, in order to avoid temporary indirect effects of construction phase lighting and noise on areas of retained habitat used by breeding birds (even if they are to be lost following the bird breeding season), the following measures should be implemented:

- Clearance or construction works within and immediately adjacent to retained areas of bird nesting habitat should employ the noise control measures, and avoid the nesting season as far as possible;
- Night-time illumination of retained bird nesting habitats should be avoided throughout the construction phase, with site compounds and security lighting established a minimum distance of

15m from retained woodland, scrub, hedgerow and wetland habitats, using directional and hooded lighting as appropriate; and

- The lighting scheme and working areas for the construction phase should be reviewed by a suitably qualified ecologist at an appropriate stage prior to works commencing.

*Residual Effects*

8.6.132. Subject to implementation of the above measures, it is near-certain that no minor adverse likely significant effect on nesting birds would arise as a result of direct physical damage or disturbance from noise or lighting during the construction phase and therefore the overall residual effect is expected to be not significant and **negligible** at a local level.

Operational Phase

*Effects*

8.6.133. Substantial adverse effects of noise on birds are extremely unlikely to occur during the operational phase of the Proposed Development. Adverse effects of lighting may arise however from the following sources:

- At road or footpath crossing points or where these are located in close proximity to woodlands, scrub, wetland or hedgerow habitats; and
- Light spill from development.

8.6.134. Assuming a worst-case scenario in that the integrity of all bird breeding habitat was affected simultaneously, this could result in an minor adverse likely significant effect in the long-term, albeit extremely unlikely and reversible.

*Additional Avoidance and Mitigation*

8.6.135. In order to avoid the potential effects of operational phase lighting, lighting proposals should be of sensitive design to maintain suitability of retained and newly created adjacent areas of habitat for nesting birds. Measures by which this can be achieved are provided in **Section 8.6.121 – 8.6.125** above. New opportunities for nesting birds should also be provided within areas of the Site away from the development areas. Suitable habitat creation opportunities are described under 'Effect 2' below.

*Residual Effects*

8.6.136. Subject to implementation of the above measures, an minor adverse likely significant effect is extremely unlikely to arise and it is expected that the development would have a not significant and **negligible** effect at a local level on nesting birds during the operational phase.

**Effect 2: Loss and fragmentation of habitats including trees, hedgerows, scrub and open farmland during the construction phase.**

Construction and Operational Phases

*Effects*

8.6.137. A network of features suitable for birds would be retained within the Proposed Development as shown on the Landscape Parameter Plan and Illustrative Masterplan. This includes retention of the majority of woodland, hedgerows and stream corridors and provision of areas of informal greenspace along the western and southern margins of the Site. In addition, a number of new green corridors are included through and around development areas; these are generally associated with

the existing hedgerow network but also provide new corridors, such as between retained areas of woodland.

8.6.138. Although loss of bird breeding habitat such as woodland, hedgerows, scattered trees and scrub has been kept to a minimum, the Proposed Development will result in the unavoidable loss of small areas of these habitats from the Site. In addition, although specialist farmland species of nature conservation concern, such as Skylark, were largely absent from the Site during the bird surveys, areas of open farmland habitat would also be lost. In the absence of mitigation this is likely to result in a minor adverse effect on bird species present within the Site at a low local level as a result of a reduction in the overall available breeding habitat.

*Additional Avoidance and Mitigation*

8.6.139. The Landscape Parameter Plans provide substantial opportunities for habitat creation and enhancement, particularly in association with the western and southern Site margins and green corridors crossing through the Site. In keeping with those indicated on the Illustrative Masterplan, a range of new habitats should be established within these areas including woodland, scrub, scattered trees and hedgerows, high-value rough and meadow grassland, and new wetlands including open water and reedbeds. Opportunities for further habitat creation work across the Site include new hedgerows, trees and pockets of woodland and scrub within and around the development areas, and a range of new wetland features in association with the SuDS network. Subject to appropriate design, this provision could be expected to maintain the populations of the majority of those bird species already present at the Site and provide new and enhanced opportunities for locally recorded birds of nature conservation interest.

8.6.140. Although it would not be possible to maintain the current extent of habitat for bird species associated with open farmland habitats, the Site is not considered important for this group and similar habitat is abundant in the wider area. It is considered that the benefits of wider habitat creation and enhancement works that can be achieved by the Proposed Development for other bird species and other wildlife could substantially outweigh the loss of open habitats.

8.6.141. In addition to the habitat creation measures described above, additional measures to benefit birds through the Proposed Development should include the provision of a range of bird nesting boxes on buildings and trees, and use of fruit and nut producing tree and shrub species in landscape planting schemes. These additional measures are discussed further in **Section 8.7.5** below.

*Residual Effects*

8.6.142. Subject to the implementation of the measures outlined above, no minor adverse likely significant effect is expected to arise and it is probable that habitat creation and enhancement associated with the Proposed Development will benefit both the majority of bird species already present at the Site and additional species. Although temporary adverse effects could be expected while new areas of habitat establish, depending on the extent of habitat creation works to be implemented across the Site, the Proposed Development has potential to have an overall **minor beneficial** effect on birds at a local level in the long-term.

## OTHER ECOLOGICAL RECEPTORS REQUIRING MITIGATION

8.6.143. A number of other important ecological receptors have been identified within the Site which are of nature conservation value at up to a local level and / or are afforded protection under the provisions of the *2024 NPPF*, the *1981 Wildlife and Countryside Act (as amended),* the *2017 Conservation of*

*Habitats and Species Regulations (as amended)*[redacted]. Whilst their value or conservation status, or the level of potential effects on these receptors, means they are not considered to be significant in the EIA decision-making process, they may require avoidance and mitigation measures in order to avoid conflict with legislation and / or to accord with material nature conservation considerations under policy and guidance.

8.6.144. As such, in addition to the key ecological receptors identified above, the other ecological receptors for consideration include:

- Network of ditches and ponds;
- [redacted]
- Reptiles;
- Great Crested Newts; and
- Invertebrates.

8.6.145. An assessment of potential effects of the Proposed Development on the ecological receptors identified above is provided below and in **Appendices 8-4 to 8-15** together with details of mitigation measures to reduce these effects. Relevant policies applicable to each of the other ecological receptors are noted in **Table 8-4**.

## OTHER ECOLOGICAL RECEPTOR: NETWORK OF STREAMS, DITCHES AND PONDS

### Overview

8.6.146. Waterbodies within the Site include several small, shallow, and predominantly ephemeral ponds generally located within woodland; one poached pond within Cattle grazed grassland; a network of seasonal ditches on hedgerow bases throughout the Site; a shallow, slow flowing stream in the north of the Site; and the Marlpost Gill, a shallow stream in the south of the Site. The value of these wetland areas is currently compromised by either a lack of management, low water levels, heavy shading suppressing growth of marginal vegetation, pollution through agricultural runoff, and / or poaching by livestock.

8.6.147. Although the ponds, ditches and streams do not represent high quality examples of these habitat types, they provide habitat for a range of species and increase the diversity of the Site as well as providing corridors for the movement of aquatic species through the Site. The ponds also broadly qualify as Habitats of Principal Importance under Section 41 of the 2006 NERC Act. In view of the above these wetland areas in combination are considered to have value at no more than a high local level.

### Potential Effects

8.6.148. The Landscape Parameter Plan indicate that the majority of the ponds will be retained within the Site within areas of open greenspace and the Marlpost Gill stream will be retained within a wide corridor of green space with a minimum width of approximately 50m. With the exception of a new road crossing, the northern stream will also be retained within corridor of green space with a minimum width of approximately 10m. The majority of seasonal ditches associated with the hedgerow network will also be retained alongside their associated hedges (see **Sections 8.6.54 – 8.6.79** above), however several ditch sections will be lost or fragmented where the associated hedgerows are lost to development or crossed by roads.

8.6.149. In the absence of avoidance and mitigation measures, the development has potential to affect the integrity of the existing wetland resource of the Site through:

- Direct loss of ditch habitats and loss of connectivity where streams and ditches are crossed by roads;
- Waterborne pollution entering wetland habitats through Site run-off or environmental accidents;
- Adverse effects on the quantity of water entering the waterbodies and continuity of the flow of on-site and off-site streams; and
- Increased noise and light disturbance to wildlife currently using the waterbodies.

8.6.150. These potential effects are assessed below.

**Effect 1: Direct loss of ditch habitats and loss of connectivity where streams and ditches are crossed by roads**

Construction Phase (continuing through Operational Phase)

*Effects*

8.6.151. The Development would require the loss and / or culverting of short sections of low value seasonal ditch to the provision of development areas and access routes through the Site. The Development Parameters also allow for construction of a new road crossing point over the northern stream. The effects of the loss of these ditches and a reduction in connectivity along the northern stream, which would arise during the construction phase and continue throughout the operational phase, are in the absence of mitigation expected to be a certain permanent minor adverse effect at a low local level.

*Additional Avoidance and Mitigation*

8.6.152. In order to avoid adverse effects resulting from loss of habitat connectivity along the northern stream, the following measures should be employed:

- The number of crossing points should be limited to those essential for movement across the Site and of the minimum width required for safety;
- Existing culverted points should be used where possible;
- Crossing points should approach the stream perpendicularly to minimise the extent of culverted sections;
- New and replacement culverts should be designed to allow the safe passage of wildlife; and
- Lighting used at the crossing points should be sensitively designed to minimise effects on nocturnal wildlife and planting provided (or existing vegetation managed) to reduce risk of collision of vehicles with bats and birds by raising flight lines (also see **Section 8.6.122**).

8.6.153. In line with the Landscape Parameter Plan a minimum 10m buffer will be retained between the northern stream and adjacent development areas within which no built development will occur (with the exception of footpaths / cycleways and the access road crossing). This buffer would include retention of the existing hedgerows and trees currently lining the stream and also provides opportunity for establishment of other complementary habitats such as species-rich meadow grassland and scrub.

8.6.154. Enhancement of the retained northern stream and the Marlpost Gill in the south of the Site could also be achieved through measures including cessation of livestock poaching on the stream margins; selective thinning of overshading vegetation to increase light levels along margins, and encourage the establishment of more diverse wet grassland and aquatic and marginal vegetation habitats, removal of existing culverts where these are no longer required, and design of a hydrological scheme and management strategy that would result in higher water levels within the streams and continuity of flow.

8.6.155. To mitigate the loss of the seasonal ditches from the Site, the Landscape Parameter Plan also allow for the creation of new wetland features and complementary habitats, both within the northern stream buffer and elsewhere within the Site, either as stand-alone features or as part of the proposed SuDS scheme. The **Illustrative Masterplan** shows how these could be delivered within the Proposed Development. In order to maximise their ecological function, these features should include a variety of habitats including permanent and ephemeral standing water which would allow establishment of a range of habitats such as damp grassland and marginal and aquatic planting.

8.6.156. Where possible, the detailed design should seek to retain and restore existing ponds and, where appropriate, enhance associated terrestrial habitats together with connective habitats to allow movement of wildlife between wetland features.

*Residual Effects*

8.6.157. In view of the degraded nature of the existing on-site ponds, ditches and streams and subject to implementation of the avoidance and mitigation measures proposed above, no adverse effect on the opportunities provided by these wetland habitats would be expected to occur during the construction or operational phases of the development and the residual effect is near certain to be not significant and **negligible** at a local level.

8.6.158. The Landscape Parameter Plan allows for the creation of extensive areas of new wetland habitat, both as part of the surface water drainage scheme and as stand-alone features, as indicated on the **Illustrative Masterplan**. Subject to appropriate design, these habitat creation and enhancement works could in fact provide substantial benefits to the wetland resource of the Site and its surrounds, through increasing the extent, quality and diversity of habitats present.

**Effect 2: Waterborne pollution entering wetlands through Site run-off or environmental accidents**

Construction Phase

*Effects*

8.6.159. Construction phase activities have the potential to cause pollution of waterbodies and watercourses within the vicinity of construction works through fuel and oil spillages, leakage from storage containers, Site worker facilities and increases in sediment run-off during building demolition, soil stripping and construction works.

8.6.160. Spillage of contaminants and silt flotation during construction represents a adverse effect, causing potential damage to hydrological processes and associated flora and fauna. A major spillage of contaminants could potentially affect substantial parts of the ditches, ponds and streams present, both within the Site and downstream. There could also be short-to-long-term effects on the integrity of the ecosystem and associated aquatic species such as invertebrates, amphibians and fish.

8.6.161. In the absence of mitigation, such a spillage could directly result in a adverse effect on a receptor of high local value thereby constituting an moderate adverse likely significant effect, albeit this is extremely unlikely to occur. Effects could potentially be intermittent or cumulative. In view of the very low flow levels of the ditches and streams present, depending on the nature and extent of the pollution incident, any such incidents have the potential to be long-term and irreversible although lesser effects are much more likely.

*Additional Avoidance and Mitigation*

8.6.162. Pollution avoidance measures to be implemented to prevent physical and chemical pollutants entering the drainage system during the construction phase should be included within the CEMP for the Proposed Development. Suitable measures to be employed to prevent effects of physical and chemical pollutants on the on-site waterbodies, including ponds, ditches and streams, are detailed in **Section 8.6.12** above in respect to the Arun Valley SPA and Ramsar and Upper Arun SSSI (**Ref 8-32**).

*Residual Effects*

8.6.163. With the above measures in place across the Site, it is considered that an moderate adverse likely significant effect on the streams, ponds and ditches within the Site or any off-site downstream waterbodies and watercourses arising from pollution during the Site construction phase would be extremely unlikely. The overall residual effect is expected to be non-significant and **negligible** at a local level.

Operational Phase

*Effects*

8.6.164. During the operational phase, in the absence of mitigation the watercourses and associated retained and newly created wetland habitats may be directly affected by inadequately contained pollution incidents which enter the SuDS outfall systems. In extreme cases, this has potential to cause a long-term adverse effect on part of a receptor considered overall to be of high local value and would therefore constitute an moderate adverse likely significant effect albeit this would be extremely unlikely to arise. Effects could potentially be regular, intermittent or cumulative. It is more likely however that the effect of such a pollution incident would be temporary, largely contained and diluted by the SuDS attenuation ponds, and would be reversible in the short-term. As such, a substantial pollution incident is considered unlikely.

*Additional Avoidance and Mitigation*

8.6.165. **Volume 1, Chapter 13: Water Resources, Flood Risk and Drainage** describes an outline surface water drainage strategy to ensure that the Proposed Development achieves at least greenfield surface water run-off rates through the use of surface water attenuation measures and SuDS, in accordance with national policy and guidance. Further details are set out in **Volume 1, Chapter 13**.

8.6.166. This includes the interception of water leaving the Site in attenuation features from which water entering the streams will be controlled. Although substantial pollution incidents are unlikely to occur during the operational phase, it is recommended that pollution control measures such as interceptor tanks and sediment traps are provided at critical points along the drainage infrastructure (e.g. as part of the road infrastructure, and in association with car parks) to further avoid risk of pollution entering watercourses.

8.6.167. As mentioned in **Section 8.6.12** above, the Proposed Development provides opportunities to reduce current levels of pollution likely to be affecting the quality of aquatic habitat provided by the streams, ditches and ponds within the Site by replacing adjacent habitats currently dominated by intensively farmed agricultural land within the Site with new species-rich grassland, scrub, woodland and wetland habitats in accordance with those shown in the **Illustrative Masterplan**. These measures have potential to reduce the existing level of nutrients and sediment that are currently entering the

watercourses through existing agricultural run-off, in keeping with the objectives of the *2022 South East River Basin Management Plan* (**Ref 8-11**).

*Residual Effects*

8.6.168. With the above measures in place across the Site, it is considered that an moderate adverse likely significant effect on the waterbodies within and downstream from the Site arising from pollution during the operational phase would be avoided. Subject to appropriate design of SuDS features and habitat enhancements along the stream corridors (see **Section 8.6.148 – 8.6.165** above), the Proposed Development would be expected to improve the quality of the water entering the waterbodies at the Site and therefore the overall residual effect is near certain to be **minor beneficia**l at a local level.

**Effect 3: Adverse effects on the quality and quantity of water entering the waterbodies and continuity of the flow of on-site and off-site streams**

Construction Phase

*Effects*

8.6.169. In the absence of mitigation, construction of the Proposed Development may lead to a adverse effect on the supply of water entering the ponds, ditches and streams within the Site during the construction phase. This may arise from either: (i) additional drying due to diversion of surface or groundwater feeding into the watercourses; or (ii) greater variability in the rate of supply to the watercourses as a result of more rapid delivery following rainfall from compaction of soil, laying of impermeable surfaces etc.

8.6.170. These incidents would have the potential to cause damage to wetland and riparian habitats within and downstream of the Site and such effects may constitute a moderate adverse likely significant effect albeit this would be extremely unlikely to arise. Depending on the nature and extent of the incident, any such incidents have the potential to be permanent and irreversible although lesser effects are much more likely.

*Additional Avoidance and Mitigation*

8.6.171. In order to avoid these effects in terms of the quantity of water entering the watercourses and the steadiness of supply, measures to be implemented during the construction phase are described within **Volume 1, Chapter 13: Water Resources, Flood Risk and Drainage**. These include installation of permanent drainage works in advance of introduction of impermeable surfaces where possible, and installation of temporary drainage measures where this is not possible. These would mimic the current Site drainage as far as possible.

*Residual Effects*

8.6.172. With the above measures in place, it is considered extremely unlikely that an moderate adverse likely significant effect on the supply of water entering the streams and ponds within the Site would arise during the construction phase, and the overall residual effect is expected to be not significant and **negligible** at a local level.

Operational Phase

*Effects*

8.6.173. During the operational phase, adverse effects on the streams, ditches and ponds within the Site may arise from greater variability in the rate of supply to the waterbodies as a result of a higher proportion of impermeable surfaces at the Site resulting in more rapid delivery following rain events.

8.6.174. In extreme circumstances (e.g. substantial downstream flooding of the Marlpost Gill) it is probable that this could result in an adverse likely significant effect depending on the severity of the effect and the aquatic species affected. Effects are likely however to be reversible and temporary.

*Additional Avoidance and Mitigation*

8.6.175. Recommended measures to avoid and / or mitigate this effect and deliver overall enhancements to the streams, ditches and ponds in the Site, both in terms of the quantity of water entering the waterbodies and the steadiness of supply, should include:

- Avoidance of reduction in ground levels where this may adversely affect the contribution of groundwater into the waterbodies;
- Appropriate design and use of any land drains, filter drains and groundwater pumping required, to maintain or improve current water levels entering the waterbodies;
- Use of surface water drainage and SuDS features to maintain the quantity and continuity of water entering the waterbodies; and
- Controlled release of water from the surface water drainage infrastructure to reflect greenfield run-off rates (and allowance for climate change) to protect against spatiness caused by climate change.

8.6.176. These measures are reflected in the surface water drainage strategy described within **Volume 1, Chapter 13: Water Resources, Flood Risk and Drainage**.

*Residual Effects*

8.6.177. With the above measures in place, it is considered extremely unlikely that a moderate adverse effect on the supply of water entering the waterbodies within the Site would arise during the operational phase, and the overall effect is expected to be not significant and **negligible** at a local level.

**Effect 4: Increased noise and light disturbance to wildlife currently using the waterbodies**

8.6.178. The effects of increased light and noise on wildlife using retained and new waterbodies during the construction and operational phases of the Proposed Development are assessed in relation to specific protected and notable species associated with these habitats, such as bats and invertebrates, in **Sections 8.6.118 – 8.6.125** and **Sections 8.6.226 – 8.6.232** above and below, together with identification of any necessary avoidance and mitigation measures. The effects of noise and lighting are therefore not considered further in this Section.

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## OTHER ECOLOGICAL RECEPTOR: REPTILES

### Overview

8.6.192. The Site is considered to support very low populations of Grass Snake, Slow-worm and Common Lizard. Although areas of suitable habitat for reptiles are found throughout the Site, the majority of

the Site comprises arable land, grazing pasture and developed land which is generally unsuitable for reptiles. The Site is therefore assessed to be of low local value for reptiles.

**Potential Effects**

8.6.193. In the absence of mitigation and avoidance measures the potential effects of the Proposed Development on the reptile interest of the Site include:

- Direct injury or mortality of reptiles during the construction phase;
- Reduction in the availability of suitable habitat from the Site; and
- Disturbance and mortality of reptiles through increased predation and human activity during the operational phase.

8.6.194. These potential effects are considered below, together with details of appropriate avoidance, reduction, mitigation and enhancement measures, as applicable.

**Effect 1: Direct injury or mortality of individual reptiles**

Construction Phase Only

*Effects*

8.6.195. Only very low numbers of Grass Snake, Slow-worm and Common Lizard are considered likely to be present within the limited areas of suitable habitat within the Site, and development works are unlikely to affect the nature conservation status of the local reptile population due to the continued presence of retained areas of suitable habitat within the Site and maintenance of connectivity with off-site habitats. Therefore, no minor adverse likely significant effect is expected to arise as a result of the Proposed Development. Notwithstanding this, the basic level of protection afforded to all reptile species would apply (i.e. protection against killing and injuring) and the clearance works should be carried out using the precautionary measures described below.

*Additional Avoidance and Mitigation*

8.6.196. Where habitats with the potential to support reptiles are lost to the Proposed Development, in order to ensure that the Proposed Development employs reasonable effort to safeguard any reptiles present, a precautionary approach to vegetation clearance is recommended to displace any reptiles present into areas of retained or newly created habitats. This would involve habitat manipulation to displace reptiles from areas of works into contiguous retained areas of suitable habitat under the supervision of a suitably qualified ecologist in accordance with the methodologies described in the reptile survey reports provided in **Appendices 8-12 and 8-13** or through capture in combination with Great Crested Newt mitigation works where affected areas of habitat potentially affecting both groups coincides.

*Residual Effects*

8.6.197. No minor adverse likely significant effect is expected to arise as a result of direct killing or injuring of reptiles. Providing the mitigation measures outlined above are implemented, it is considered near certain that the Proposed Development would avoid injury or killing of any reptiles present, and no adverse effects on the local reptile population are expected to arise during the construction phase. Any such effect is therefore expected to be not significant and **negligible** at the Site level.

**Effect 2: Reduction in the availability of suitable habitat at the Site**

Construction and Operational Phases

*Effects*

8.6.198. The Proposed Development will result in the loss of limited areas of reptile habitat where new buildings and hardstanding take the place of field margins, scrub, hedgerow bases, ditches, stream banks and tall ruderal habitats. In the absence of mitigation this is likely to result in an adverse effect on reptiles from a reduction in the overall available habitat, however due to only very limited areas of suitable reptile habitat being affected, the very low numbers of reptiles present, and the retention of habitat within the substantial areas of open space no adverse likely significant effect is expected to arise and any such adverse effect is expected to be negligible at a local level. This loss would occur during the construction phase.

*Additional Avoidance and Mitigation*

8.6.199. The Proposed Development provides opportunities for extensive enhancement and creation of suitable habitat for reptiles within areas of informal open space throughout the Site, including species-rich meadow and rough grassland, scrub and woodland habitats and creation of new waterbodies. As they mature, it is also expected that the larger gardens and informal open spaces within the development areas may also provide some opportunities for reptiles where landscape proposals include tree, shrub and scrub planting and establishment of new areas of rough and meadow grassland.

8.6.200. In addition to securing the enhancement and creation of new reptile habitat at the Site, additional measures to benefit reptiles in the long-term should include the enhancement of opportunities for hibernation and refuge though provision of log / brash piles and purpose-built hibernaculum. These additional measures are discussed in Section 8.7 below.

*Residual Effects*

8.6.201. No adverse likely significant effect is expected to arise as a result of reduction in the availability of reptile habitat within the Site. Subject to the implementation of the measures outlined above, it is expected that habitat creation and enhancement works associated with the Proposed Development could benefit reptile populations associated with the Site and its surrounds. Although short to medium term minor adverse effects may arise while new areas of habitat establish these are considered to be not significant and **negligible** at the local level and, subject to the implementation of the habitat creation and enhancement works summarised above, it is extremely likely that the Proposed Development could have a long-term **minor beneficial** effect for reptiles in terms of availability of habitat in the operational phase.

**Effect 3: Disturbance and mortality of reptiles through increased predation and human activity**

Operational Phase Only

*Effects*

8.6.202. During the operational phase of the Proposed Development, effects on reptiles may include increased predation by cats and disturbance by human activity through increased use of the Site. Although an minor adverse likely significant effect is not expected to arise as a result of increased disturbance and mortality of reptiles during the operational phase, and any such adverse effects would be expected to be negligible at the Site level in balance with habitat creation and enhancement works described above, measures are described below to reduce these effects on reptiles at the Site.

*Additional Avoidance and Mitigation*

8.6.203. To minimise the potential effects of increased human disturbance within areas of reptile habitat such as scrub, woodland edge and meadow and rough grassland within the informal open spaces, clear paths should be provided to focus use along designated routes thereby limiting the extent of disturbance to selected areas.

8.6.204. To reduce effects on reptiles from increased cat predation it is recommended that new residents are provided with a '*Living with Wildlife'* leaflet to raise awareness about the habitats within and adjacent to the Site and the presence of local wildlife, including reptiles. This should include advice to keep cats in at night and ensuring cats wear collars with bells to avoid them killing reptiles and other groups such as small mammals. In addition, where reptile refugia and hibernacula are installed as part of the enhancements recommended in Section 8.7, these should be sited away from the developed areas and new reptile habitat provision should be maximised within the landscape design in order to offset any effects that predation or disturbance might have on reptile numbers.

*Residual Effects*

8.6.205. No minor adverse likely significant effect is expected to arise as a result of increased disturbance and mortality of reptiles during the operational phase. Following implementation of the avoidance and mitigation measures described above to reduce any adverse effects on reptiles arising from human disturbance and cat predation, it is near certain that any residual adverse effect would be not significant and **negligible** at the Site level in balance with habitat creation and enhancement works described above.

## OTHER ECOLOGICAL RECEPTOR: GREAT CRESTED NEWTS

### Overview

8.6.206. Two waterbodies (Waterbodies 9 and 35) within the wider area returned a positive result for Great Crested Newts during the eDNA survey. At least low numbers of Great Crested Newts are therefore expected to routinely use the Site during their terrestrial phase in the vicinity of these two waterbodies. In view of the absence of evidence of Great Crested Newts within the waterbodies within the Site (and the absence of Great Crested Newts in all waterbodies survey in 2022) however, it is considered that the Site may have value for Great Crested Newts at up to a High Local level although a lower level is likely.

### Potential Effects

8.6.207. The Landscape Parameter Plan indicate that the majority of existing ponds will be retained within the Site within areas of informal greenspace, with habitat links maintained to retained habitats in the wider area, and as such potential future breeding habitat for Great Crested Newts is expected to be maintained within the Site. Loss of terrestrial habitat from the development areas in the vicinity of off-site Waterbodies 9 and 35, however has potential to adversely affect any Great Crested Newts present.

8.6.208. Potential adverse effects on Great Crested Newts arising from the Proposed Development are therefore:

- Direct injury and mortality of individual Great Crested Newts and reduction in available habitat during the construction phase; and

- Increased likelihood of disturbance and accidental mortality through increased human activity during the operational phase.

8.6.209. These are discussed below, together with details of appropriate avoidance, reduction, mitigation and enhancement measures, as applicable.

**Effect 1: Direct injury and mortality of individual Great Crested Newts and reduction in available habitat**

Construction and Operational Phases

*Effects*

8.6.210. When considering effects on terrestrial habitat, English Nature research suggests that the maximum routine migratory distance of Great Crested Newts away from breeding ponds is 250m and that 95% of summer refuges are within 63m of breeding ponds (**Ref 8-38**). No breeding ponds are present within the Site itself however a total of 12.3ha of the Site is located within 250m of Waterbodies 9 and 35. Current proposals suggest that areas of public open space are proposed in proximity to both Waterbodies 9 and 35 with retained hedgerows and trees where possible. Nonetheless, sections of hedgerow bases and grassland field margins within 250m of Waterbodies 9 and 35 will be lost to the proposed road infrastructure and within development areas.

8.6.211. In the absence of mitigation, the loss of the terrestrial habitat discussed above would be near certain to result in an adverse effect on Great Crested Newts however given that no breeding ponds will be affected and the provision of areas of green space secured within the Development Parameters around Waterbody 9 an moderate adverse likely significant effect is not expected to arise and this effect is likely to be at no more than a low local level.

8.6.212. It will however be necessary to avoid injury or killing of Great Crested Newts to comply with nature conservation legislation and maintain the favourable conservation status of Great Crested Newts within the Site and wider area.

*Additional Avoidance and Mitigation*

8.6.213. A detailed description of measures to mitigate the effects of the Proposed Development on Great Crested Newts is given in **Volume 2, Appendix 8.14: Great Crested Newt HIS and eDNA Survey Report**. This gives consideration to protection of individual Great Crested Newts through removal and exclusion from areas of the Site affected by works where likely to support Great Crested Newts prior to and during construction, and provision of replacement habitat within the landscape scheme of the Proposed Development to ensure that opportunities remain at the Site for Great Crested Newts in the long-term. Key elements are identified below together with further consideration of the effects of the Proposed Development on future opportunities at the Site for Great Crested Newts.

8.6.214. Unless otherwise required under license, where substantial areas of suitable terrestrial habitat are affected within 250m of Waterbodies 9 and 35, prior to commencement of development, a suitable receptor area should be identified and made suitable to accept Great Crested Newts through habitat enhancements if necessary. Exclusion fencing should then be erected around the boundary of the affected habitat and all Great Crested Newts removed from the area through a process of trapping and translocation followed by vegetation manipulation / destructive search works. Following translocation of all Great Crested Newts out of the area, development works would then be able to proceed as normal subject to the exclusion fence being retained *in situ* and maintained for the whole construction period for the area concerned.

8.6.215. Where only small and isolated areas of suitable terrestrial habitat are affected, a two-stage approach to vegetation clearance should be implemented, including a process of vegetation manipulation and destructive search under ecological supervision.

8.6.216. All works affecting Great Crested Newt terrestrial habitat will need to be carried out under either a District Licence or an EPS licence, to be obtained from Natural England. Further details of mitigation for Great Crested Newts at the Site are provided in **Volume 2, Appendix 8.14**.

8.6.217. In order to further protect Great Crested Newts within the Site during the operational phase, any gully pots to be installed within 250m of Waterbodies 9 and 35 should be suitably designed with a stand-off from the kerb and / or through use of 'wildlife friendly' kerbs to avoid entrapment of Great Crested Newts and other wildlife passing over hard landscaped areas. Consideration should also be given to installation of 'escape ladders' in drains. Where appropriate, dropped kerbs should also be used where Great Crested Newts are likely to cross roads and other areas of hardstanding. Detailed drainage and infrastructure proposals for the Proposed Development should be reviewed at appropriate design stages by a suitably qualified ecologist.

8.6.218. To mitigate the loss of limited areas of terrestrial habitat from the Site associated with the off-site breeding ponds, the detailed design for the Proposed Development should include the retention and / or creation of complementary terrestrial habitats, in accordance with the following design principles:

- Areas of suitable terrestrial habitat should be accessible from Waterbodies 9 and 35 and any other any newly created Great Crested Newt ponds. These could either be existing habitats already present in the vicinity of the Site or retained / newly created habitats within the Site itself. Suitable terrestrial habitats include woodland, scrub, rough grassland and hedgerows;
- Opportunities for hibernation and refuge should be provided in the vicinity of any retained and new ponds in the form of log / brash piles and purpose-built hibernacula; and
- Wherever possible, new and existing waterbodies within the Site and wider area should be well connected by suitable terrestrial habitats.

8.6.219. As discussed in **Section 8.7** below, the **Illustrative Masterplan** shows how new wetland features could be delivered within the Proposed Development, including as stand-alone features within areas of open space and as part of the SuDS network. In order to maximise their ecological function, these features should include a variety of habitats including permanent and ephemeral standing water and aquatic / marginal planting of value to Great Crested Newts. A network of new high-quality terrestrial habitats such as scrub, rough grassland and woodland, could also be created within the areas of informal open space proposed at the Site, with habitat connections maintained to new and existing ponds.

*Residual Effects*

8.6.220. No moderate adverse likely significant effect is expected to arise on Great Crested Newts and through implementation of the above measures to protect individual Great Crested Newts during construction and maintain terrestrial habitat within the Site the proposed works would not be expected to have any adverse on the favourable conservation status of the Great Crested Newt population present. It is therefore considered near certain that the residual effect on Great Crested Newts during the construction and operational phases would be not significant and **negligible** at the Site level. Subject to appropriate design, the habitat creation and enhancement proposals discussed above could be expected to provide substantial benefits to Great Crested Newts in the long-term, through increasing the extent and quality of the breeding and terrestrial habitats present.

**Effect 2: Increased likelihood of disturbance and accidental mortality through increased human activity**

Operational Phase only

*Effects*

8.6.221. The potential effects of killing and injuring Great Crested Newts during construction of the Proposed Development are assessed above, however, during the operational phase of the Proposed Development, additional effects on Great Crested Newts may include disturbance by human activity in the medium- and long-term through increased use of the Site. Although no adverse likely significant effect would be expected to arise and any such adverse effects would be expected to be negligible at the Site level in balance with existing intensive agricultural use of the area of the Site in the vicinity of Waterbodies 9 and 35 and the extensive habitat creation and enhancement works described above, measures are described below to reduce these effects on Great Crested Newts at the Site.

*Additional Avoidance and Mitigation*

8.6.222. To minimise the potential effects of increased human disturbance in the vicinity of Waterbodies 9 and 35 and any other Great Crested Newt ponds created within the Site, where access is permitted within areas of suitable habitat such as scrub, woodland edge and rough grassland within informal open spaces, clear paths should be provided to focus use along designated routes thereby limiting risk of disturbance. In addition, consideration should be given to provision of 'dog dips' at selected locations in order to focus disturbance of new and enhanced wetland habitats in limited areas.

*Residual Effects*

8.6.223. No adverse likely significant effect on Great Crested Newts is expected to arise as a result of human disturbance during the operational phase and following implementation of the avoidance and mitigation measures described above to reduce any adverse effects on Great Crested Newts arising from human disturbance, it is near certain that any residual adverse effect would be not significant and **negligible** at the Site level in balance with habitat creation and enhancement works described above.

## OTHER ECOLOGICAL RECEPTOR: INVERTEBRATES

### Overview

8.6.224. The habitats of highest interest for invertebrates at the Site include the network of hedgerows and field margins, with veteran and mature trees, woodlands and wetland also providing some interest. In combination, across the Site these habitats are considered as a whole to support invertebrate assemblages of moderate Local value. The vast majority of the Site however, notably the arable fields and pastures, comprise habitat of low invertebrate interest.

### Potential Effects

8.6.225. Although the majority of the habitats of highest interest for invertebrates will be retained within the Proposed Development in accordance with the Landscape Parameter Plan and Land Use Parameter Plan, some areas of habitat of value to invertebrates will be lost including some hedgerow sections, scattered trees and rough grassland field margins. These are discussed below.

**Effect 1: Direct loss of some areas of habitat supporting invertebrates**

Construction Phase continuing through to the Operational Phase

*Effects*

8.6.226. The Proposed Development includes the retention of all veteran trees and the majority of hedgerows and mature trees at the Site, and all ancient woodland and the majority of secondary woodland will also be retained. This will ensure that a high proportion of the habitats of highest interest for invertebrates are maintained. The loss of hedgerows and grassland field margins from development areas would however result in a direct loss of habitat for invertebrates.

8.6.227. Despite any such loss being likely to constitute only a small proportion of invertebrate habitat within the Site and the surrounding area, and an minor adverse likely significant effect is not expected to arise, in the absence of mitigation a reduction in the overall habitat resource from the Site would be expected to affect the overall integrity of the invertebrate assemblage present and this has potential to result in a permanent adverse effect on invertebrates at up to a moderate local level although lesser effects are more likely in view of the small proportion of habitat being affected in this way.

*Additional Avoidance and Mitigation*

8.6.228. Measures to be implemented within the Proposed Development to ensure the current value of the hedgerow and tree resource within the Site is maintained are discussed above. In addition to the this, habitats of value to invertebrates should be further maintained through:

- Management of retained woodlands in line with the measures described in **Sections 8.6.54** and **8.5.63;**
- Management of retained waterbodies and creation of new waterbodies in line with the measures described in Section 8.7;
- Additional planting of Blackthorn and rotational management of hedgerows to maintain young growth of Blackthorn branches suitable to support Brown Hairstreak butterfly;
- Retention of standing deadwood within woodlands, hedgerows and standard trees where safe to do so;
- Veteranisation of selected trees where this is unlikely to affect property or public safety such as through the use of coronet cuts or bark-ringing. Ideal candidates for veteranisation include broadleaved species affected by ‘haloing’ around veteran and ancient trees;
- Provision of log and brash piles around woodland edges and hedgerow bases using arisings from site clearance and ongoing habitat management works;
- Inclusion of native species-rich and structurally diverse grasslands within areas of open space; and
- Inclusion of nectar and pollen-rich species within landscape planting schemes.

8.6.229. Further winter egg search surveys for Brown Hairstreak butterfly are being undertaken in December 2025 / January 2026 in order to gain more details of the distribution and breeding status of this species within the Site. The results of this survey will be used to ensure that any habitat used for breeding is retained or adequately mitigated within future detailed development proposals.

*Residual Effects*

8.6.230. Although no minor adverse likely significant effect on invertebrates is expected to arise, there is expected to be a minor short-term adverse effect on invertebrates at the Site during the construction phase, when limited areas of habitat are lost and before new and enhanced habitat becomes

established. In the long-term, subject to implementation of the avoidance and mitigation measures described above, adverse effects are extremely unlikely and the residual effect is expected to be not significant and **negligible** at a Local level. Depending on the extent of habitat creation works to be implemented across the Site, the Proposed Development has potential to have an overall long-term beneficial effect on this receptor of moderate local value.

### ASSESSMENT AGAINST FUTURE BASELINE

8.6.231. The majority of the baseline conditions identified in Section 8.4 above are maintained through ongoing management of the Site. With the continued implementation of current management practices, it is not expected that the ecological character of the Site would change significantly over the next ten years and as such, no alterations to the assessment of potential effects, mitigation and residual effects described above would be anticipated.

## 8.7. OPPORTUNITIES FOR ENVIRONMENTAL ENHANCEMENT

### Enhancement

8.7.1. The NPPF (**Ref 8-8**) includes the broad aim that planning, construction, development and regeneration should have minimal effects on biodiversity and enhance it wherever possible. In moving towards this vision, the Government constructed a set of objectives which include: "…*promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity"* and *"… opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate*." This is supported by the *2006 NERC Act* which requires decision makers, such as planning authorities, to have regard to the conservation of biodiversity in England.

8.7.2. The layout of the Proposed Development as set out in the Land Use Parameter Plan and Landscape Parameter Plan has been arrived at through an iterative design process which has integrated ecological considerations into successive design amendments. Specific measures integrated into the design of the Proposed Development and opportunities reflected in **Illustrative Masterplan** in keeping with the objectives of NPPF, are illustrated on **Figure 8-13: Ecological Opportunities Plan**. These are summarised below together with measures to maximise their value to wildlife.

8.7.3. Key semi-natural habitat creation and enhancement opportunities within the Site, which could be provided beyond that required for mitigation described above, include:

- Creation of high-quality wetland habitats, in association with the SuDS or as stand-alone features, within areas of open space. These could include a selection of wetland habitats such as open water, reedbeds, swales, ditches, wet grassland and permanent and ephemeral ponds to be planted with a variety of aquatic and marginal plant species;
- Establishment of species-rich meadow and rough grassland within areas of informal open space and management through a suitable cutting regime;
- Establishment of new areas of woodland, trees and scrub in areas of informal open space and in association with the road network using native species appropriate to the local area, sourced from stock of local provenance wherever possible;

- Enhancement of the retained streams, ponds and ditches to include reprofiling and selective thinning of overshading vegetation to increase light levels and encourage the establishment of more diverse aquatic and marginal vegetation;
- Creation of ecotones along woodland edges, comprising a gradation from woodland to scrub to rough and meadow grassland habitats, noted for their high biodiversity value;
- Infilling of gaps in retained hedgerows and establishment of new species-rich hedgerows across and around the Site in association with development area boundaries and areas of open space;
- Use of management techniques such as veteranisation of selected retained mature trees to promote deadwood of value to invertebrates;
- Establishment of new standard trees in areas of formal and informal open space and development areas; and
- Monitoring of terrestrial habitats and waterbodies for invasive species and implementation of management for eradication of such species where required.

8.7.4. In keeping with the objectives of West Sussex LNRS (**Ref 8-40**), the Weald to Waves project (**Ref 8-42**) and the Wilder Horsham District partnership (**Ref 8-43**), the Proposed Development would provide opportunities to align the proposals for the public open green spaces with the aims of these strategies including enhancement of existing woodland habitats, new woodland and scrub planting to increase habitat connectivity between woodland parcels and provision of ecotone habitats along woodland buffers noted for providing biodiverse habitats.

8.7.5. Other opportunities for wildlife within the overall green infrastructure of the Site should be provided within the proposed landscape and structural planting, and formal and informal open spaces. The detailed design should have regard to the following principles to in order to maximise value for wildlife where these land uses occur:

- Inclusion of species with the following characteristics in formal tree and shrub planting:
    - Fruit and nut bearing species;
    - Native species appropriate to the local area, where possible sourced from stock of local provenance; and,
    - Nectar and pollen-rich species such as those listed on the Royal Horticultural Society's Perfect for Pollinators website (**Ref 8-39**).
- Use of diverse herb-rich seed mixes where appropriate for amenity grassland creation;
- Installation of a range of bat and bird boxes on trees and built structures;
- Retention of deadwood habitats where safe to do so;
- Provision of log and brash piles;
- Use of native hedgerow planting along the boundaries of new properties; and,
- Ensure presence of gaps in boundary fencing and use of dropped kerbs and off-set gully pots in appropriate locations to allow movement of wildlife such as Hedgehogs and amphibians.

8.7.6. The enhancement measures identified above would be delivered during construction of each relevant development phase. Upon completion of the above identified works, these enhancement measures would be subject to management and monitoring as discussed below.

**Management**

8.7.7. It is recommended that a Landscape and Ecological Management Plan (LEMP) is prepared at an appropriate stage to identify how habitats of nature conservation interest within the Site will be manged to ensure maximisation of the long-term nature conservation interest of retained, enhanced

and newly created habitats during establishment and the operational phase of the Proposed Development. The preparation and implementation of detailed management plans for each phase of the Proposed Development could be subject of a condition of planning consent.

**Monitoring**

8.7.8. In order to assess the effectiveness of the mitigation described within this chapter during the operational phase of the Proposed Development, and to ensure the successful establishment of ecological enhancements across the Site, it is recommended that a monitoring programme be implemented as part of the ongoing management to assess the condition of retained, enhanced and newly created habitats, and target species of nature conservation interest including bats, birds and invertebrates.

8.7.9. In addition, prior to each phase of the Site preparation and construction works the advice of a suitably qualified ecologist should be sought with regard to any requirement to update ecological survey work in order to ensure that mitigation proposals reflect the current status of species occurring at the Site at the time of the development works.

## 8.8. DIFFICULTIES AND UNCERTAINTIES

8.8.1. All specific limitations encountered during the surveys are noted in the respective reports provided at **Appendices 8-4 to 8-15**, and where relevant, limitations are considered within the assessments presented in Section 8.6 above. Key uncertainties at the time of writing are:

- The suite of bat roost and activity surveys and bird surveys are currently being updated and subsequently the updated reports will be provided on completion of the surveys. It should however be noted that a full suite of bat and bird surveys were undertaken by HDA in 2021 / 2022 and as there has been little change in the extent and character of habitats at the Site in the intervening period it is considered that these survey results provide a sufficient basis for the assessment and recommendations given in this report.

8.8.2. Minor additional limitations, common to many protected species surveys, are identified in the respective reports provided as **Appendices 8-4 to 8-15** of this chapter. These are not considered likely to compromise the conclusions reached or recommendations made in this chapter.

8.8.3. With due regard to the above, together with the desk study information obtained for this study, the Phase 1 habitat survey / UK Habitat Classification survey and specialist ecological survey work conducted to inform this assessment are considered sufficient to inform the likely nature conservation importance of the Site and to inform the assessment and approach to avoidance, mitigation and compensation of effects identified in Section 8.6 of this chapter.

## 8.9. SUMMARY

8.9.1. The design and layout of the Proposed Development has been arrived at through an iterative process, with the findings of ecological surveys providing informed advice on avoidance and reduction of ecological effects and inclusion of opportunities for ecological enhancement over successive design iterations. Through this approach, avoidance and mitigation for key ecological effects have been successfully integrated into the design of the Proposed Development. Where additional measures have been required to safeguard the ecological value of the Site, these have been identified in Section 8.6 above. This has resulted in negligible residual ecological impacts on

the receptors both in isolation and in combination with other developments in the wider area, and no residual significant adverse effects are expected to remain following their implementation.

8.9.2. In addition to addressing the specific effect avoidance, mitigation and enhancement measures for each of the identified important ecological receptors associated with the Site, the Proposed Development in accordance with the measures described could create new opportunities for wildlife through habitat creation, management and enhancement, providing beneficial effects for protected, notable and common habitats and species in accordance with the provisions of the *2024 NPPF* and the *2006 NERC Act*.

8.9.3. **Table 8-6** below provides a summary of the findings of the assessment.

**Table 8-6 - Summary of ecological effects**

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Construction Phase** | | | | | |
| **Key Ecological Receptor:** Arun Valley SAC / SPA / Ramsar and Upper Arun SSSI site | • Effects on the hydrological resource and water quality of the SAC / SPA / Ramsar / SSSI resulting from construction activities within the Site. | **Negligible**<br>**(not significant)**<br>T / I / ST and reversible | • Development of surface water drainage design to ensure maintenance of water quality, constancy and quantity supporting retained wetland features within and adjacent to the Site.<br>• Construction works to be carried out in accordance with pollution prevention guidance.<br>• Protection measures to be set out in a CEMP. | **Negligible**<br>**(not significant)**<br>N/A | • Protection measures to be set out in a CEMP and monitored by Site Manager. |
| **Key Ecological Receptor:** The Mens SAC | • Loss and fragmentation of small areas of bat foraging and commuting habitat potentially used by bats associated with the SAC.<br>• Disturbance to foraging / commuting bats associated with the | **Negligible**<br>**(not significant)**<br>N/A | • N/A<br>• Measures to maintain opportunities for roosting, foraging and commuting bats (see below) within Site landscape scheme / lighting design are given below. | **Negligible**<br>**(not significant)**<br>N/A | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | SAC from construction phase lighting. | | | | |
| **Key Ecological Receptor:** Courtland Wood LWS, Sparrows Copse LWS and other undesignated ancient woodland | • Loss of trees and physical damage to retained woodland trees.<br>• Damage to trees through ground compaction, pollution, root severance, ground-level changes, and changes to hydrology.<br>• Loss of habitat connectivity between Courtland Wood LWS and Smith's Copse through new road infrastructure.<br>• Increased light and noise levels affecting value of retained woodland for wildlife.<br>• Opportunity for establishment of new woodland | **Moderate Adverse (significant)**<br>T-P / D&I / ST-LT (but some elements reversible) | • Implementation of construction exclusion / buffer zones around woodland and protect woodland trees in accordance with BS5837 or the advice of a suitably qualified arboriculturalist;<br>• Controls on lighting and noise in vicinity of woodlands;<br>• Provide adjacent areas of complementary habitat e.g. scrub / meadow grassland / wetlands and maintain / create new habitat linkages (continuing into operational phase).<br>• Commence management through LEMP.<br>• Protection measures to be set out in a CEMP.<br>• Woodlands will be retained within areas of open space, with a minimum buffer of 15m provided between the ancient woodland and the | **Negligible (not significant)**<br>Potentially P beneficial in LT through woodland management and provision of complementary habitats – arising during construction and continuing throughout operational phase. | • Development design, including habitat creation and lighting proposals, to be reviewed by a suitably qualified ecologist.<br>• Protection measures to be set out in a CEMP and monitored by Site Manager.<br>• LEMP to include monitoring and review. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | planting and complementary habitats within open spaces (beneficial continuing through operational phase). | | closest development parcels. | | |
| **Key Ecological Receptor:** Network of secondary woodland, hedgerows, mature trees and treelines | • Loss of secondary woodlands, hedgerows and trees of limited ecological importance in their own right.<br>• Severance of existing hedgerow corridors where crossed by roads / cycleways / footpath routes.<br>• Direct physical damage to retained secondary woodlands, hedgerows, trees and scrub and indirect damage through ground compaction, pollution, root severance, ground-level changes and | **Major Adverse (significant)**<br>T-P / D&I / ST-LT (but some elements reversible) | • Only lose or provide access points through existing hedgerows and treelines where merited by design.<br>• Minimise loss of linear habitats at access points through use of existing gaps.<br>• Enhance existing hedgerows and treelines through gapping up.<br>• Creation of new linear semi-natural habitats connecting with existing habitat within and adjacent to the Site.<br>• Protection of retained hedgerow, scrub and trees in accordance with BS5837 or the advice of a suitably qualified arboriculturalist.<br>• Retention of mature trees and existing hedgerows outside of residential | **Negligible (not significant)**<br>T / D & I / ST | • Development design, including habitat creation and lighting proposals, to be reviewed by a suitably qualified ecologist.<br>• Protection measures to be set out in a CEMP and monitored by Site Manager.<br>• LEMP to include monitoring and review. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | loss of supportive habitat for associated wildlife.<br>• Increased light and noise levels affecting the value of retained secondary woodland, hedgerows, scrub and trees for wildlife.<br>• Establishment of new structural landscape planting and opportunity for other new hedgerows, woodland and scattered trees part of the Site's green infrastructure (beneficial). | | curtilages and allowing sufficient space for management.<br>• Controls on lighting, dust and noise in vicinity of veteran/ancient trees;<br>• Landscape design to maintain connectivity between areas of on- and off-site habitat and provide complementary semi-natural habitats.<br>• Opportunity to create new linear habitats/ habitat corridors and connection to new and existing areas of semi-natural habitat such as wetland, woodland, scrub, and species-rich grassland within areas of open space throughout the Site.<br>• Commence management through LEMP.<br>• Protection measures to be set out in a CEMP. | | |
| **Key Ecological Receptor:** Veteran trees | • Direct loss of veteran trees and deterioration of retained trees | **Moderate Adverse (significant)** | • Ensure no loss or deterioration of veteran trees. | **Negligible (not significant)** | • Development design, including habitat creation and lighting proposals, to be |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | through loss of associated habitat.<br>• Direct or indirect physical damage to retained veteran trees through ground compaction, pollution, root severance, ground-level changes and impacts on hydrology.<br>• Increased light and noise levels affecting value of retained veteran trees for wildlife. | T-P / D & I / ST-LT (but some elements reversible) | • Retention of veteran trees outside of residential curtilages and allowing sufficient space for management.<br>• Provision of expanded buffer zones around veteran trees, comprising predominantly semi-natural habitats.<br>• Controls on lighting, dust and noise in vicinity of veteran trees.<br>• Landscape design to maintain connectivity between areas of on- and off-site habitat and provide complementary semi-natural habitats.<br>• Implementation of Veteran Tree Management Plan.<br>• Protection measures to be set out in a CEMP. | (Potentially P beneficial in LT through protection and management of existing trees and ensuring future generations) | reviewed by a suitably qualified ecologist.<br>• Protection measures to be set out in a CEMP and monitored by Site Manager.<br>• LEMP / Veteran Tree Management Plan to include monitoring and review. |
| **Key Ecological Receptor:** Bats (roosting) | • Injury / mortality of roosting bats, destruction or abandonment of roosts and loss of | **Moderate Adverse (significant)**<br>T-P / D & I / ST-LT (but some elements reversible) | • In advance of works commencing, provide replacement roosting opportunities proportionate to those lost. | **Negligible (not significant)**<br>(Potentially P beneficial in LT | • Development design, including habitat creation and lighting proposals, to be reviewed by a suitably qualified ecologist. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | bat roosting opportunities.<br>• As the buildings / trees of the Proposed Development age / mature it is likely that these will provide new opportunities for roosting bats (beneficial). | | • Works affecting confirmed roosts to be carried out during spring or autumn to avoid times of year when bats are most susceptible to disturbance (unless breeding / hibernation discounted).<br>• Updated emergence / re-entry surveys or climbed inspections of trees for bats to be conducted where appropriate prior to works taking place;<br>• Removal of features providing bat roosting potential should be carried out by hand under the supervision of a licensed bat worker.<br>• Installation of bat boxes on retained mature trees across the Site, particularly those with good connections to foraging habitat.<br>• Creation of roosting opportunities on new dwellings and other buildings. | through increased roosting opportunities) | • Replacement roost provision to be monitored in line with approved Natural England licence.<br>• Protection measures to be set out in a CEMP and monitored by Site Manager. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | | | • Protection measures to be set out in a CEMP. | | |
| **Key Ecological Receptor:** Bats (foraging) | • Mortality of foraging / commuting bats and effects on foraging and commuting habitat through habitat loss and fragmentation and increased light levels.<br>• Opportunities for enhanced foraging habitat within the Site's green infrastructure through establishment of new wetlands and meadow grassland, trees and scrub (beneficial). | **Moderate Adverse (significant)**<br>T-P / D & I / ST-LT (but some elements reversible) | • Retention of network of foraging habitat within and around Site.<br>• Avoidance of disturbance and unsympathetic lighting of retained foraging habitat.<br>• Landscape design to maintain connectivity between areas of on- and off-site habitat.<br>• Use of nectar and pollen rich species in planting schemes.<br>• Opportunity for enhancement of retained semi-natural habitats and to provide new and replacement wetland, hedgerow, trees, scrub and species-rich grassland within areas of open space throughout the Site.<br>• Use of nectar and pollen rich species in formal planting schemes.<br>• Protection measures to be set out in a CEMP. | **Negligible (not significant)**<br>(Potentially P beneficial in LT through increased foraging opportunities) | • Development design, including habitat creation and lighting proposals, to be reviewed by a suitably qualified ecologist.<br>• Protection measures to be set out in a CEMP and monitored by Site Manager and Natural England licence holder. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Key Ecological Receptor:** Birds | • Effects on nesting birds through direct physical damage and indirect effects of disturbance on new and retained habitats.<br>• Loss and fragmentation of habitats including trees, hedgerows, scrub and open farmland.<br>• Opportunities for establishment of new breeding and foraging habitat and ecological corridors as part of the Site's green infrastructure (beneficial). | **Moderate Adverse**<br>**(significant)**<br>T-P / D & I / ST-LT (but some elements reversible) | • Site clearance and initial ground works to be carried out outside bird breeding season unless preceded by a check for nesting birds.<br>• Noisy activities to avoid areas of retained nesting habitat<br>• Sensitive lighting design for construction phase.<br>• Landscape design to maintain connectivity between areas of on- and off-site habitat.<br>• Provision of bird boxes on retained trees and new buildings.<br>• Opportunity for enhancement of retained semi-natural habitats and to provide new and replacement wetland, hedgerow, trees, scrub and species-rich grassland within areas of open space throughout the Site.<br>• Protection measures to be set out in a CEMP. | **Negligible**<br>**(not significant)**<br>Potentially minor beneficial in LT for some species through increased nesting and habitat opportunities. Arising during construction phase and continuing throughout operational phase. | • Development design, including habitat creation and lighting proposals, to be reviewed by a suitably qualified ecologist.<br>• Protection measures to be set out in a CEMP and monitored by Site Manager. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Other Ecological Receptor:** Network of streams, ditches and ponds | • Direct loss of ditch habitats and loss of connectivity where streams and ditches are crossed by roads.<br>• Waterborne pollution entering wetlands through Site run-off or environmental accidents.<br>• Adverse effects on the quantity of water entering the waterbodies and continuity of the flow of on-site and off-site streams.<br>• Increased noise, light and human disturbance to wildlife currently using the waterbodies.<br>• Opportunities for enhancement of retained on-site streams, ponds and ditches and creation of new | **Minor Adverse**<br>**(significant)**<br>T-P / D & I / ST-LT (but some elements reversible) | • Minimise loss of ditches and ponds in detailed design.<br>• Enhancement of retained ditches and ponds (e.g. through reduced shading, de-silting etc).<br>• Development surface water drainage design to ensure maintenance of water quality, constancy and quantity supporting retained wetland features within and adjacent to the Site.<br>• Construction works to be carried out in accordance with pollution prevention guidance.<br>• Sensitive lighting design for the construction phase.<br>• Secure management through inclusion in a LEMP.<br>• Opportunity to create new ponds, ditches and other wetland habitats through Site landscape and SuDS strategies. | **Negligible**<br>**(not significant)**<br>Potentially P beneficial in LT through delivery of newly created and enhanced wetland habitats. Arising during construction phase and continuing throughout operational phase. | • Development design, including habitat creation and lighting proposals, to be reviewed by a suitably qualified ecologist.<br>• Protection measures to be set out in a CEMP and monitored by Site Manager. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | wetland habitats as part of the Site's SuDS network (beneficial). | | • Opportunity to provide adjacent areas of complementary habitat e.g. scrub / tree planting and meadow grassland, additional wetlands etc.<br>• Protection measures to be set out in a CEMP.<br>• The majority of the ponds will be retained within areas of open greenspace. The Marlpost Gill stream will be retained within a wide corridor of green space with a minimum width of approximately 50m. With the exception of a new road crossing, the northern stream will also be retained within corridor of green space with a minimum width of approximately 10m. | | |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | [redacted] | | [redacted] | | [redacted] |
| **Other Ecological Receptor:** Reptiles | • Direct injury / mortality of reptiles.<br>• Reduction in the availability of suitable habitat at the Site.<br>• Opportunity for creation and maintenance of areas of new habitat as part of the Site's green infrastructure (beneficial). | **Negligible**<br>**(not significant)**<br>T-P / D & I / ST-LT (but some elements reversible) | • Protection of reptiles during construction through sensitive clearance of vegetation.<br>• Creation of new habitats of value to reptiles within areas of open space.<br>• Protection measures to be set out in a CEMP. | **Negligible**<br>**(not significant)**<br>Potentially P beneficial in LT through delivery of newly created and enhanced reptile habitats. Arising during construction phase and continuing throughout operational phase. | • Development design, including habitat creation and lighting proposals, to be reviewed by a suitably qualified ecologist.<br>• Protection measures to be set out in a CEMP and monitored by Site Manager. |
| **Other Ecological Receptor:** Great Crested Newts | • Direct injury and mortality of individual Great | **Negligible**<br>**(not significant)** | • Protection of Great Crested Newts during construction through sensitive clearance | **Negligible** | • Development design, including habitat creation and lighting |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | Crested Newts and reduction in available habitat.<br>• Establishment of new potential breeding habitat and new terrestrial habitat (beneficial). | T-P / D & I / ST-LT (but some elements reversible) | of vegetation, including trapping and translocation where appropriate within 250m of the waterbodies supporting Great Crested Newts.<br>• Creation of new habitats of value to Great Crested Newts within areas of open space.<br>• Protection measures to be set out in a CEMP. | **(not significant)**<br>Potentially P beneficial in LT through delivery of newly created and enhanced habitats for Great Crested Newts. Arising during construction phase and continuing throughout operational phase. | proposals, to be reviewed by a suitably qualified ecologist.<br>• Monitoring to be carried out in line with approved Natural England licence.<br>• Protection measures to be set out in a CEMP and monitored by Site Manager and Natural England licence holder. |
| **Other Ecological Receptor:** Invertebrates | • Direct loss of some areas of habitat supporting invertebrates.<br>• Opportunities for creation of new areas of high-quality habitat in areas of informal open space as part of Site's green infrastructure (beneficial). | **Negligible**<br>**(not significant)** | • Retention, enhancement and creation of new habitats of value to invertebrates within areas of open space.<br>• Sensitive lighting design for the construction phase.<br>• Opportunity for enhancement of retained semi-natural habitats and to provide new and replacement wetland, hedgerow, trees, scrub and species-rich grassland | **Negligible**<br>**(not significant)**<br>Potentially P beneficial in LT through delivery of newly created and enhanced habitats for invertebrates. Arising during construction phase and continuing | • Development design, including habitat creation and lighting proposals, to be reviewed by a suitably qualified ecologist.<br>• Protection measures to be set out in a CEMP and monitored by Site Manager. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | | | within areas of open space throughout the Site.<br>• Protection measures to be set out in a CEMP. | throughout operational phase. | |
| **Operational Phase** | | | | | |
| **Key Ecological Receptor:** Arun Valley SAC / SPA / Ramsar and Upper Arun SSSI | • Effects on the hydrological resource and water quality of the SAC / SPA / Ramsar / SSSI resulting from operational phase activities within the Site. | **Negligible**<br>**(not significant)**<br>T / I / ST and reversible | • Development of surface water drainage design to ensure maintenance of water quality, constancy and quantity supporting retained wetland features within and adjacent to the Site. | **Negligible**<br>**(not significant)**<br>N/A | • Development design, including habitat creation to be reviewed by a suitably qualified ecologist. |
| **Key Ecological Receptor:** The Mens SAC | • Disturbance to foraging / commuting bats associated with the SAC from operational phase lighting.<br>• Enhanced foraging habitat within informal open space through establishment of new wetlands and meadow grassland, trees and scrub in | **Negligible**<br>**(not significant)**<br>N/A | • Measures to maintain opportunities for roosting, foraging and commuting bats (see below) within Site landscape scheme / lighting design. | **Negligible**<br>**(not significant)**<br>N/A | **N/A** |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | accordance with Development Parameters (beneficial). | | | | |
| **Key Ecological Receptor:** Courtland Wood LWS, Sparrows Copse LWS and other undesignated ancient woodland | • Increased light and noise levels affecting value of retained and new woodland areas for wildlife.<br>• Human activities resulting in damage, disturbance and change to habitats. | **Moderate adverse (significant)**<br>P / D&I / LT (but reversible) | • Fencing and establishment of scrub ecotones for biodiversity and to control access into the woodland.<br>• Sensitive operational phase lighting design.<br>• Provide information to new residents / allotment holders.<br>• Establishment and management of adjacent areas of complementary habitat e.g. scrub / meadow grassland / wetland and habitat connections.<br>• Continue management of habitats through LEMP. | **Negligible (not significant)**<br>Potentially P beneficial in LT through woodland management and provision of complementary habitats – arising during construction and continuing throughout operational phase. | • Development design, including habitat creation and lighting proposals, to be reviewed by a suitably qualified ecologist.<br>• LEMP to include monitoring and review. |
| **Key Ecological Receptor:** Network of hedgerows, mature trees and treelines | • Direct and indirect physical damage to woodlands, hedgerows, scrub and trees.<br>• Increased light and noise levels affecting the value | **Moderate adverse (significant)**<br>P / D&I / LT (but some reversible) | • Sensitive operational phase lighting design.<br>• Development design to exclude features from residential curtilages and allow space for management. | **Negligible (not significant)**<br>Potentially P beneficial in LT for through improved linear | • Development design, including habitat creation and lighting proposals, to be reviewed by a suitably qualified ecologist.<br>• LEMP to include monitoring and review. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | of retained woodlands, hedgerows, scrub and trees for wildlife. | | • Establish adjacent complementary habitats.<br>• Continue management of habitats through LEMP. | habitat provision. | |
| **Key Ecological Receptor:** Veteran trees | • Deterioration of retained veteran trees through loss and damage to associated habitat.<br>• Increased light and noise levels affecting value of retained veteran trees for wildlife. | **Moderate adverse (significant)**<br>P / D&I / LT (but some reversible) | • Establish adjacent complementary habitats.<br>• Sensitive operational phase lighting design.<br>• Development design to exclude features from residential curtilages and allow space for management.<br>• Continue management and enhancement works to ensure integrity of existing veteran trees and that of next generation. | **Negligible (not significant)**<br>Potentially P beneficial in LT for through improved linear habitat provision. | • Development design, including habitat creation and lighting proposals, to be reviewed by a suitably qualified ecologist.<br>• LEMP / Veteran Tree Management Plan to include monitoring and review. |
| **Key Ecological Receptor:** Bats (roosting) | • Injury / mortality of roosting bats, destruction or abandonment of roosts and loss of bat roosting opportunities.<br>• As the buildings / trees of the Proposed | **N/A** | • Replacement roosting opportunities to be provided during construction phase.<br>• Sensitive operational phase lighting design. | **Negligible (not significant)**<br>Potentially P beneficial in LT for through improved roosting habitat provision. | • Development design, including habitat creation and lighting, proposals to be reviewed by a suitably qualified ecologist.<br>• Replacement roost provision to be monitored in line with |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | Development age / mature it is likely that these will provide new opportunities for roosting bats (beneficial). | | | | approved Natural England licence. |
| **Key Ecological Receptor:** Bats (foraging) | • Mortality of foraging / commuting bats and effects on foraging and commuting habitat through habitat loss and fragmentation and increased light levels. | **Moderate Adverse (significant)** P / D &I / LT (but some reversible) | • Habitat maintenance and enhancement works to be implemented during construction phase.<br>• Sensitive operational phase lighting design. | **Negligible (not significant)** Potentially P beneficial in LT for foraging bats through improved habitats. | • Development design, including habitat creation and lighting, proposals to be reviewed by a suitably qualified ecologist.<br>• LEMP to include monitoring and review. |
| **Key Ecological Receptor:** Birds | • Effects on nesting birds through direct physical damage and indirect effects of disturbance on new and retained habitats.<br>• Establishment of new habitats and management of existing as part of Site landscape scheme (beneficial). | **Negligible (not significant)** P / D & I / LT (but reversible) | • Sensitive lighting design for the operational phase.<br>• Provide information to new residents.<br>• Continue management of new, retained and enhanced habitats. | **Negligible (not significant)** Potentially P beneficial in LT for some bird species through improved habitat and increased nesting opportunities. | • Development design, including habitat creation and lighting proposals, to be reviewed by a suitably qualified ecologist.<br>• LEMP to include monitoring and review. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Other Ecological Receptor:** Network of streams, ditches and ponds | • Waterborne pollution entering wetlands through Site run-off or environmental accidents.<br>• Adverse effects on the quantity of water entering the waterbodies and continuity of the flow of on-site and off-site streams.<br>• Increased noise, light and human disturbance to wildlife using retained and newly created wetland habitats. | **Moderate Adverse (significant)**<br>T-P / I & D / ST-LT (but reversible) | • Sensitive lighting design for the operational phase.<br>• Provide information to new residents.<br>• Continue management of new, retained and enhanced habitats. | **Negligible (not significant)**<br>Potentially P beneficial in LT through improved wetland habitat provision. | • Development design, including habitat creation and lighting proposals, to be reviewed by a suitably qualified ecologist.<br>• Monitoring / maintenance of surface water drainage infrastructure.<br>• LEMP to include monitoring and review. |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Other Ecological Receptor:** Reptiles | • Disturbance and mortality of reptiles through increased predation and human activity. | **Negligible**<br>**(not significant)**<br>P / D & I / LT | • Provide information to new residents.<br>• Continue management of new, retained and enhanced habitats. | **Negligible**<br>**(not significant)**<br>Potentially P beneficial in LT through delivery of newly created and enhanced reptile habitats. Arising during construction phase and continuing throughout operational phase. | • Development and landscape design to be reviewed by a suitably qualified ecologist.<br>• LEMP to include monitoring and review. |
| **Other Ecological Receptor:** Great Crested Newts | • Increased likelihood of disturbance and accidental mortality through increased human activity. | **Negligible**<br>**(not significant)**<br>P / D & I / LT | • Include features to prevent entrapment in road infrastructure.<br>• Provide information to new residents.<br>• Continue management of new, retained and enhanced habitats. | **Negligible**<br>**(not significant)**<br>Potentially P **beneficial** in LT for Great Crested Newts through improved wetland and terrestrial habitat provision. Arising during | • Development and landscape design to be reviewed by a suitably qualified ecologist.<br>• LEMP to include monitoring and review. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | | | | construction phase and continuing throughout operational phase. | |
| **Other Ecological Receptor:** Invertebrates | • Establishment of high-quality habitat in areas of informal open spaces as part of Site's green infrastructure (beneficial). | **Negligible**<br>**(not significant)**<br>P / D & I / LT | • Continue management of new, retained and enhanced habitats.<br>• Sensitive lighting design for the operational phase. | **Negligible**<br>**(not significant)**<br>Potentially P beneficial in LT for Invertebrates through improved wetland and terrestrial habitat provision. Arising during construction phase and continuing throughout operational phase. | • Development and landscape design, including lighting proposals, to be reviewed by a suitably qualified ecologist.<br>• LEMP to include monitoring and review. |

Key to table:

**P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable**

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north

**KEY**

- Target Note
- Site boundary
- Existing Large Rural Tree
- Streams
- Artificial unvegetated, unsealed surface
- Winter stubble
- Developed land; sealed surface
- Lowland mixed deciduous woodland
- Mixed scrub
- A Modified grassland
- A Cereal crops
- Other woodland; mixed
- Ponds (non-priority habitat)
- Ruderal/Ephemeral
- Line of trees
- Line of trees - associated with bank or ditch
- Native hedgerow
- Native hedgerow - associated with bank or ditch
- Native hedgerow with trees
- Native hedgerow with trees - associated with bank or ditch
- Ancient Woodland

CLIENT:
Berkeley Strategic Land Ltd

PROJECT:
Land North-West of Southwater, Horsham

TITLE:
2025 UK Habitat Classification Survey Plan – Main Site North

SCALE AT A3: NTS

DATE: January 2026

2090.78 / 19a

Figure 8-1a

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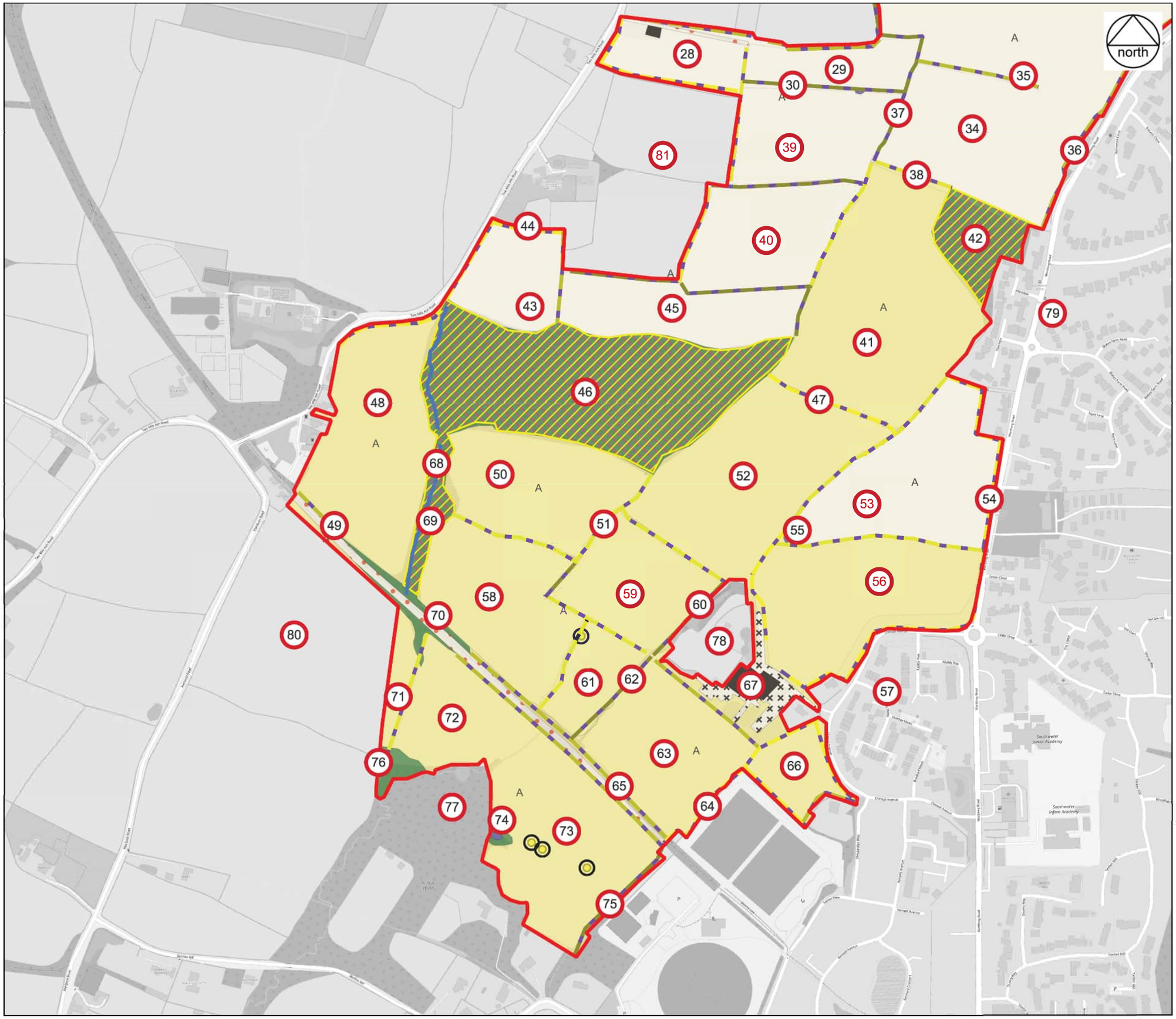


**KEY**

- Target Note
- Site boundary
- Existing Large Rural Tree
- Streams
- Artificial unvegetated, unsealed surface
- A Cereal crops
- Developed land; sealed surface
- Lowland mixed deciduous woodland
- Mixed scrub
- A Modified grassland
- Ponds (non-priority habitat)
- Ruderal/Ephemeral
- Local Wildlife Site
- Native hedgerow
- Native hedgerow - associated with bank or ditch
- Native hedgerow with trees
- Native hedgerow with trees - associated with bank or ditch
- Ancient Woodland

CLIENT:
Berkeley Strategic Land Ltd

PROJECT:
Land North-West of Southwater, Horsham

TITLE:
2025 UK Habitat Classification Survey Plan – Main Site South

| SCALE AT A3: | DATE: |
|---|---|
| NTS | January 2026 |
| 2090.78 / 19b | Figure 8-1b |

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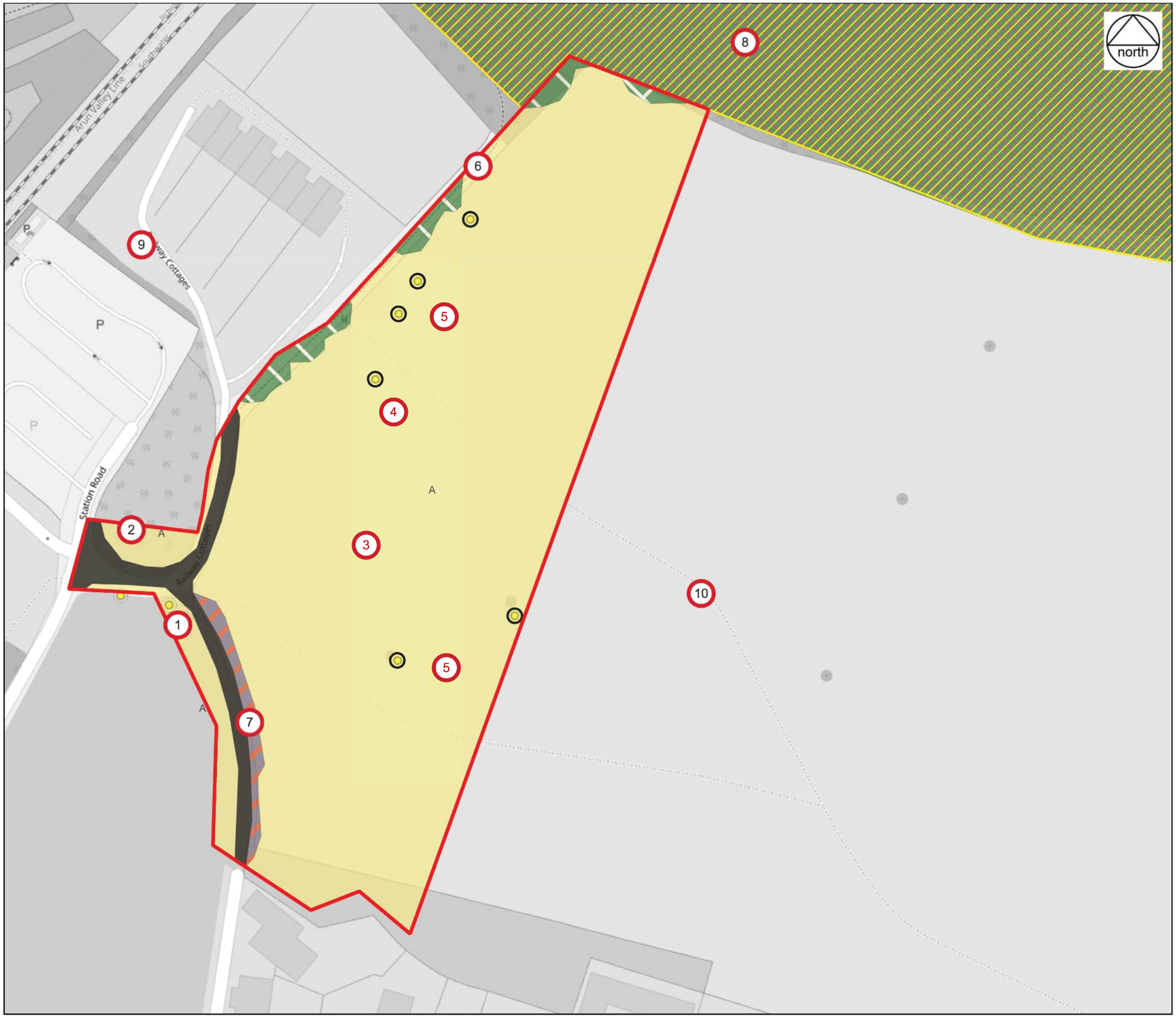


**KEY**

- Site boundary
- Target Note
- Local Wildlife Site
- Bramble scrub
- Developed land; sealed surface
- Lowland mixed deciduous woodland
- Mixed scrub
- A Modified grassland
- Existing Large Rural Tree
- Existing Small Rural Tree

CLIENT:
Berkeley Strategic Land Ltd

PROJECT:
Land North-West of Southwater, Horsham:
Christ's Hospital

TITLE:
UK Habitat Survey Plan

SCALE AT A3: NTS DATE: Jan 2026

2090.78 / 21 Figure 8-1c

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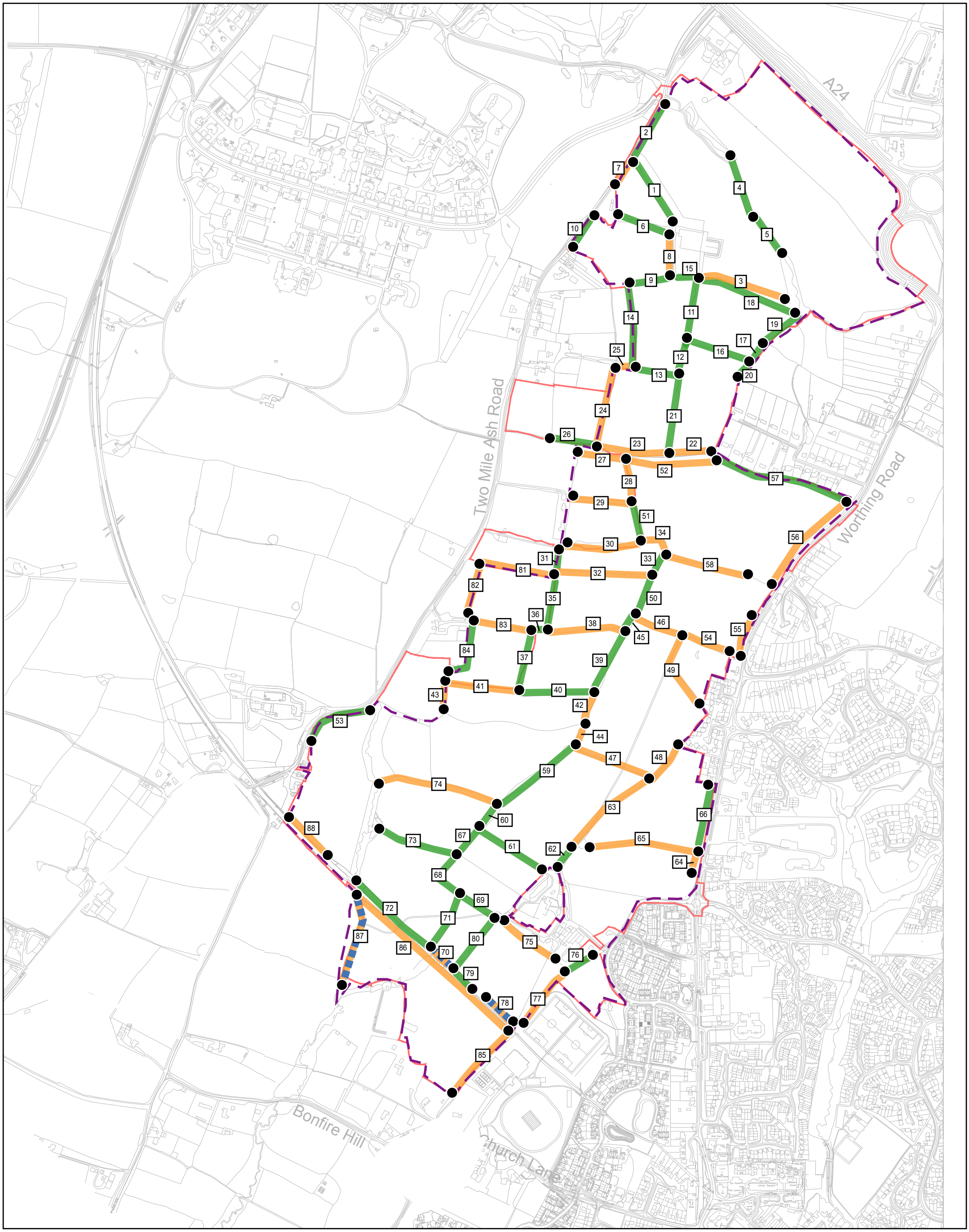


**KEY**

- Site boundary
- Survey area boundary
- Hedgerow node
- 1 Hedgrow number

**HEDGEROW IMPORTANCE UNDER WILDLIFE & LANDSCAPE CRITERIA OF HEDGEROW REGULATIONS (1997)**

- Hedgerow important under Paragraph 6
- Hedgerow important under Paragraph 7
- Hedgerow non-important

CLIENT:
Berkeley Strategic Land Ltd

PROJECT:
Land North-West of Southwater, Horsham

TITLE:
2022 Hedgerow Survey Results Plan

SCALE AT A3: NTS

DATE: January 2026

2090.78/08a

**FIGURE 8-2**

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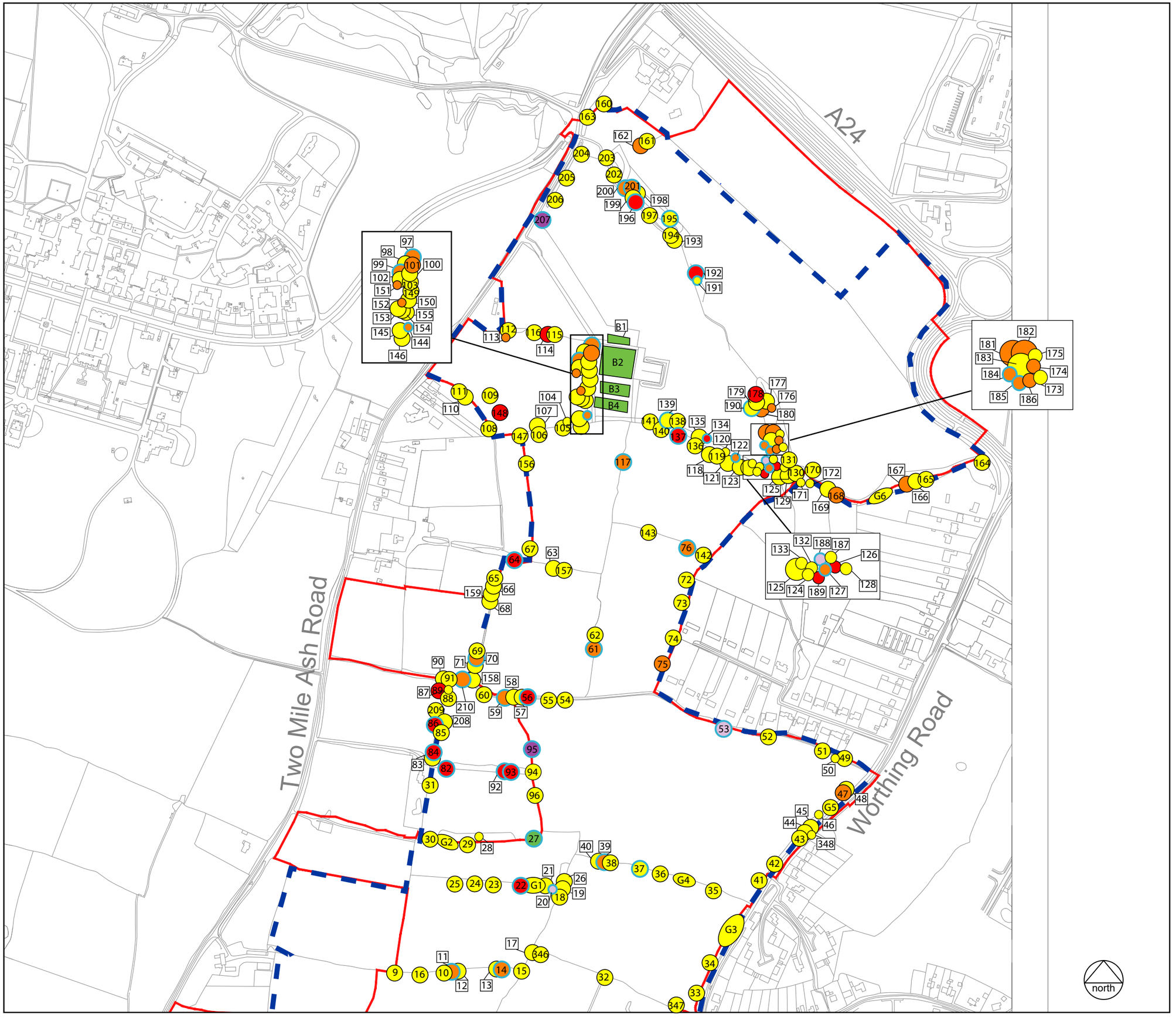


## KEY

- Site boundary
- Survey area boundary
- Tree/building subject to Phase 2 roost survey

BUILDINGS *

- Confirmed bat roost
- High bat roost potential
- Moderate bat roost potential
- Low bat roost potential
- Negligible bat roost potential

TREES *

- Confirmed bat roost
- Probable bat roost
- High bat roost potential
- Moderate bat roost potential
- Low bat roost potential
- Negligible bat roost potential

* Roosting categories relate to roost potential in accordance with the BCT 2016 guidelines. All other trees within the survey area are regarded as having 'negligible' potential to support roosting bats.

The bat roosting potential of groups (G) and woodlands (W) shown on the plan correspond with the highest potential feature recorded within each group/ woodland.

CLIENT:
Berkeley Strategic Land Ltd

PROJECT:
Land North-West of Southwater, Horsham

TITLE:
2022 Bat Roost Survey Summary Plan - Northern Area

SCALE AT A3:
1:5000

DATE:
January 2026

2090.78 / 12a

**FIGURE 8-3a**

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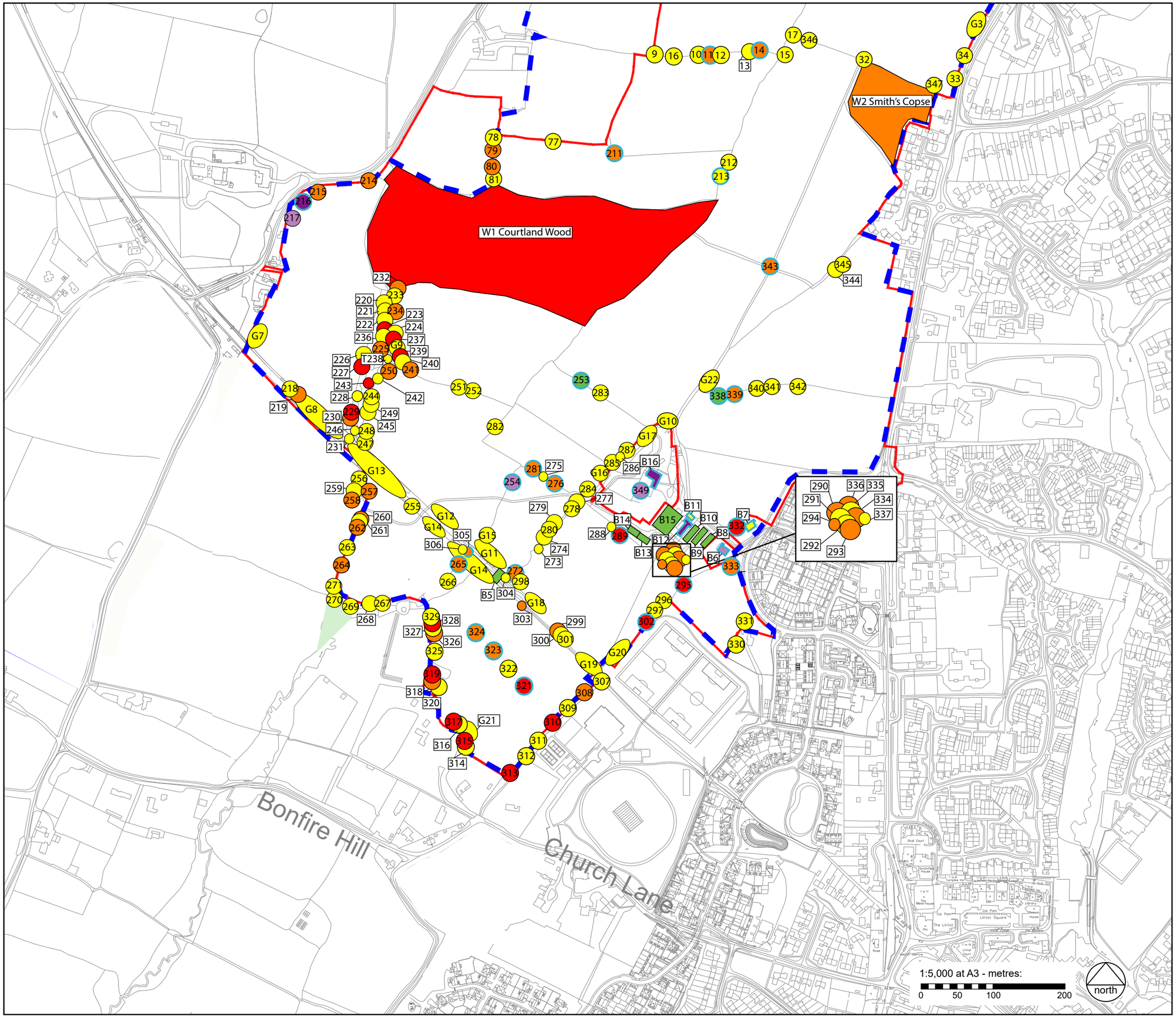


## KEY

- Site boundary
- Survey area boundary
- Tree/building subject to Phase 2 roost survey

BUILDINGS *

- Confirmed bat roost
- High bat roost potential
- Moderate bat roost potential
- Low bat roost potential
- Negligible bat roost potential

TREES *

- Confirmed bat roost
- Probable bat roost
- High bat roost potential
- Moderate bat roost potential
- Low bat roost potential
- Negligible bat roost potential

* Roosting categories relate to roost potential in accordance with the BCT 2016 guidelines. All other trees within the survey area are regarded as having 'negligible' potential to support roosting bats.

The bat roosting potential of groups (G) and woodlands (W) shown on the plan correspond with the highest potential feature recorded within each group/ woodland.

CLIENT:
Berkeley Strategic Land Ltd

PROJECT:
Land North-West of Southwater, Horsham

TITLE:
2022 Bat Roost Survey Summary Plan - Southern Area

SCALE AT A3:
1:5000

DATE:
January 2026

2090.78 / 13a

**FIGURE 8-3b**

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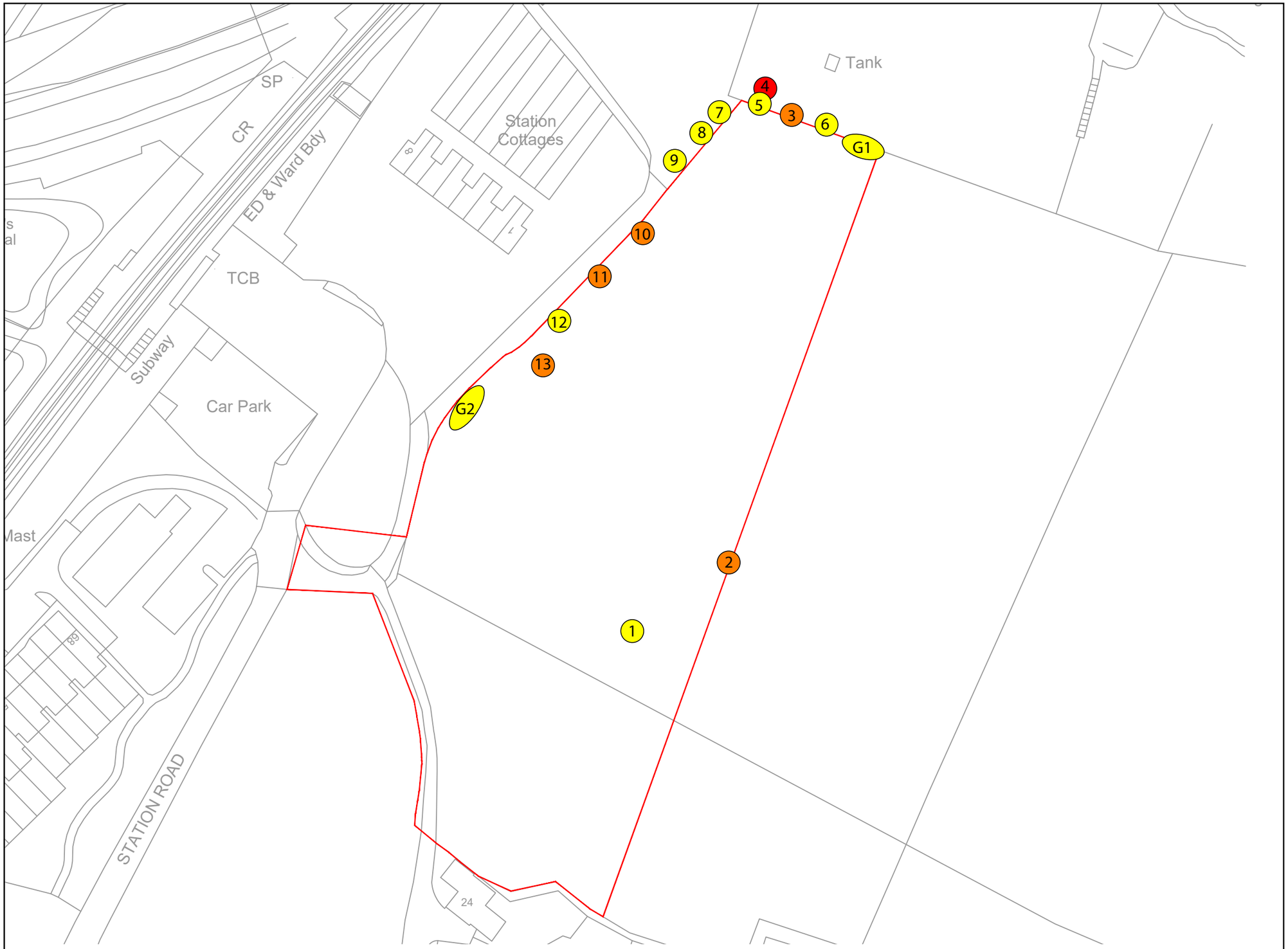


1:1,000 at A3 - metres:

0 10 20 30 40 50

north

**KEY**

Site boundary

TREES *

High bat roost potential

Moderate bat roost potential

Low bat roost potential

* Roosting categories relate to roost potential in accordance with the BCT 2016 guidelines. All other trees within the site are regarded as having 'negligible' potential to support roosting bats.

CLIENT:
Berkeley Strategic Land Ltd

PROJECT:
Land North-West of Southwater, Horsham: Christ's Hospital

TITLE:
2022 Bat Roost Survey Summary Plan

SCALE AT A3:
1: 1,000

DATE:
January 2026

2090.78/06

**FIGURE 8-3c**

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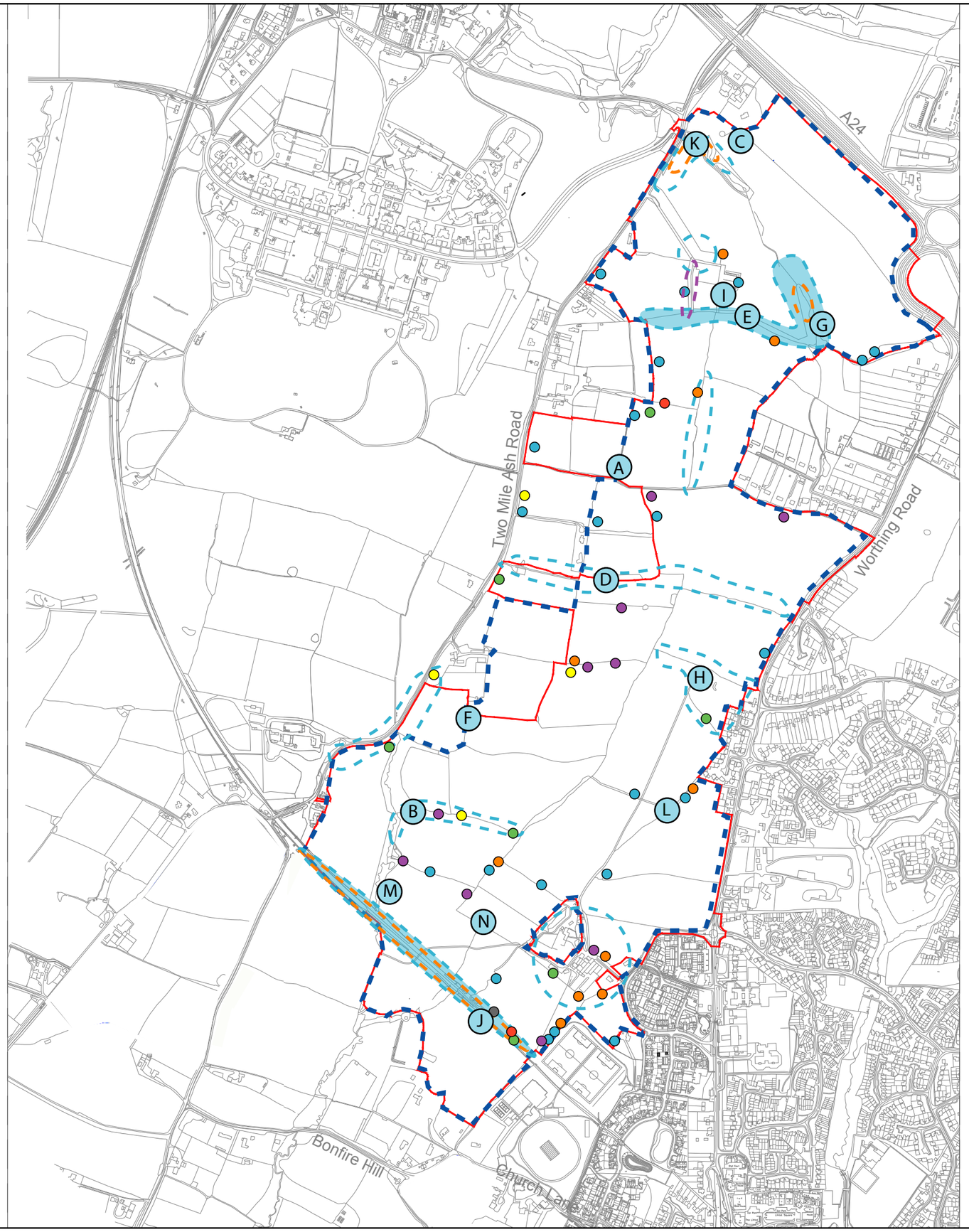


north

## KEY

- Site boundary
- Survey area boundary
- C — Automated detector

**Bat foraging and commuting activity**

Common Pipistrelle
- Single bat pass
- Occasional bat pass / foraging
- Moderate foraging activity

Soprano Pipistrelle
- Single bat pass
- Occasional bat pass / foraging

Noctule
- Single bat pass
- Occasional bat pass / foraging

Brown Long-eared bat
- Single bat pass

*Myotis* sp. bat
- Single bat pass

Serotine
- Single bat pass

Leisler's bat
- Single bat pass

CLIENT:
Berkeley Strategic Land Ltd

PROJECT:
Land North-West of Southwater, Horsham

TITLE:
2022 Bat Activity Survey Summary Plan

SCALE AT A3: NTS

DATE: January 2026

2090.78 / 14a

**FIGURE 8-4**

| | | |
|---|---|---|
| F | 20.01.2026 | Issued for Information |

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north

E
D
C
B
A
M
F
G
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Q
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L
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K
J

0 250 500 m

**KEY**

Mammal path

Sett in current use

Outlying Badger sett

Badger sett recorded in 2022, not recorded in 2025

Map data from OpenStreetMap 2026-01-20

CLIENT:
Berkeley Strategic Land Ltd

PROJECT:
Land North-West of Southwater, Horsham

TITLE:
2025 Badger Survey Summary Plan - Main Site

SCALE AT A3: See scale bar

DATE: January 2026

2090.78 / 17

FIGURE 8-5a

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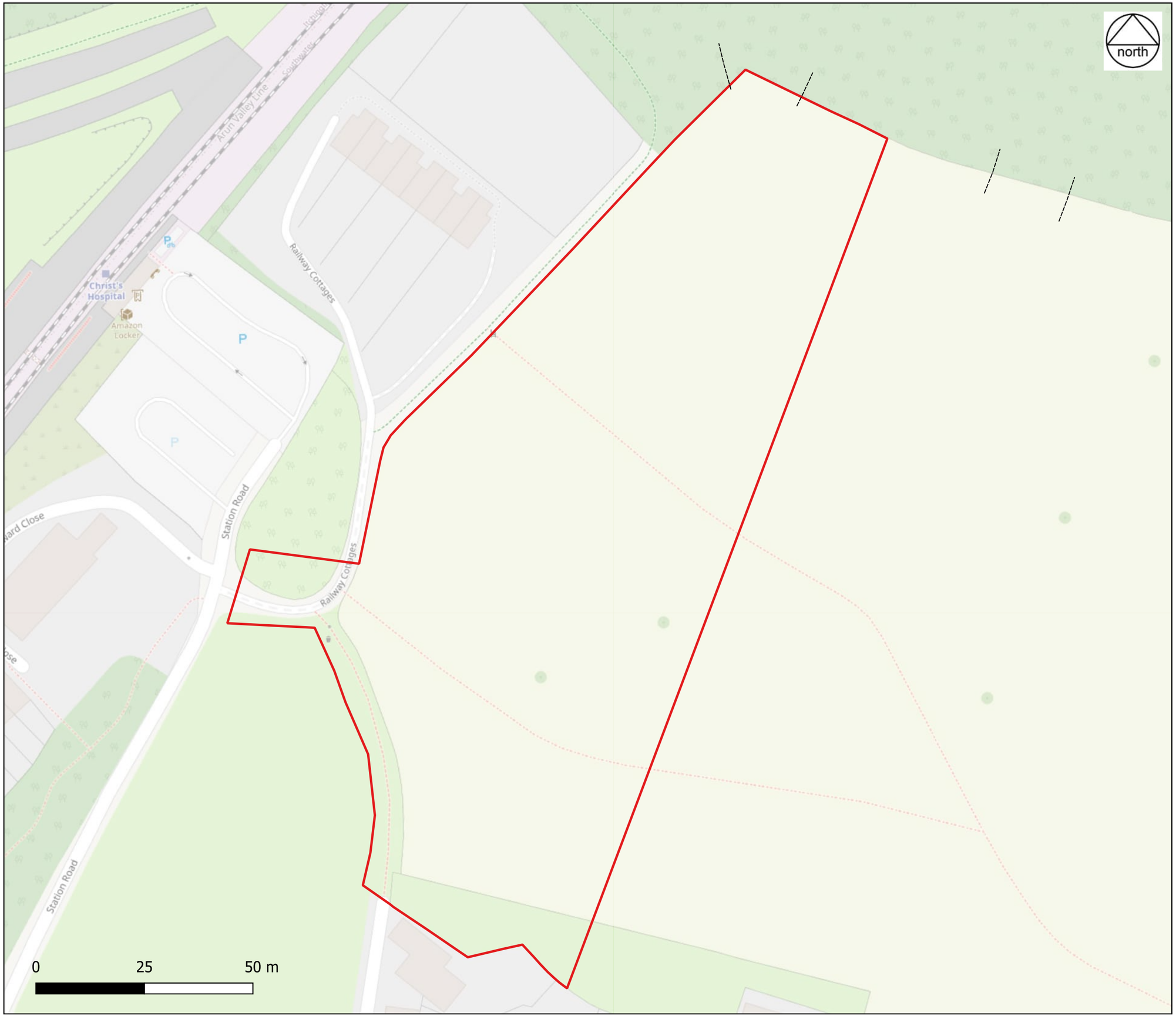


**KEY**

Site boundary

Mammal paths

No Setts recorded

CLIENT:
Berkeley Strategic Land Ltd

PROJECT:
Land North-West of Southwater, Horsham

TITLE:
2025 Badger Survey Summary Plan - Christ Hospital

SCALE AT A3:
See scale bar

DATE:
January 2026

2090.78 / 18

FIGURE 8-5b

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north

0 250 500 m

**KEY**

Site boundary

Areas of site surveyed using reptile refugia*

*No reptiles were recorded during the survey

Map data from OpenStreetMap 2026-01-20

CLIENT:
Berkeley Strategic Land Ltd

PROJECT:
Land North-West of Southwater, Horsham

TITLE:
2025 Reptile Survey Summary Plan

SCALE AT A3: See scale bar

DATE: January 2026

2090.78 / 26

FIGURE 8-6a

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Landscape Architecture
Masterplanning
Ecology

hda

north

Arun Valley Line

Southwater

Ironground

Railway Cottages

Christ's Hospital

Amazon Locker

P

Station Road

Railway Cottages

Barnes Wallis Avenue

0 50 100 m

**KEY**

- Site boundary
- Grass Snake Recorded
- Reptile Refugia

Map data from OpenStreetMap 2026-01-20

CLIENT:
Berkeley Strategic Land Ltd

PROJECT:
Land North-West of Southwater, Horsham

TITLE:
2025 Reptile Survey Summary Plan

SCALE AT A3: See scale bar

DATE: January 2026

2090.78 / 26

FIGURE 8-6b

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0 250 500 m

**KEY**

- Site boundary
- 300m Site Buffer
- 250m pond buffer
- Waterbody dry/ no longer present
- Waterbody tested negative during eDNA survey
- Waterbody tested positive during eDNA survey
- Access to waterbody not granted

Map data from OpenStreetMap 2026-01-20

CLIENT:
Berkeley Strategic land Ltd

PROJECT:
Land North-West of Southwater, Horsham

TITLE:
2025 Great Crested Newt eDNA Survey Summary Plan

| SCALE AT A3: | DATE: |
|---|---|
| See scale bar | January 2026 |
| 2090.78 / 27 | FIGURE 8-7 |

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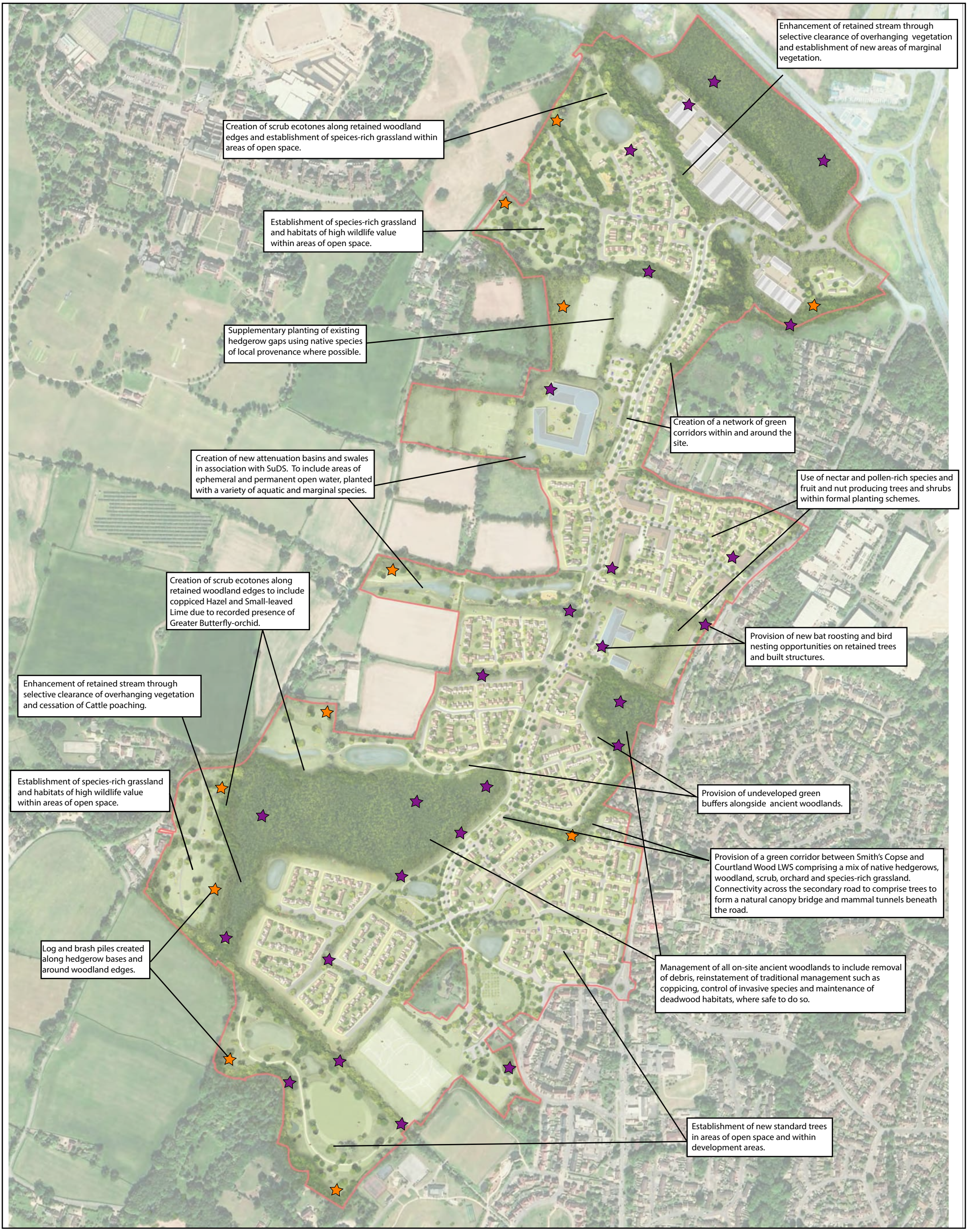


**KEY**

Site boundary

New opportunities for roosting bats and breeding birds provided within new buildings and retained trees*

Log and brash piles installed around scrub and hedgerow edges to provide opportunities for reptiles and other wildlife*

* Locations shown are indicative

CLIENT:
Berkeley Homes (Southern) Ltd

PROJECT:
Land North West of Southwater

TITLE:
Ecological Opportunities Plan

SCALE AT A3:
NTS

DATE:
February 2026

2090.78/10

**FIGURE 8-8**

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hda

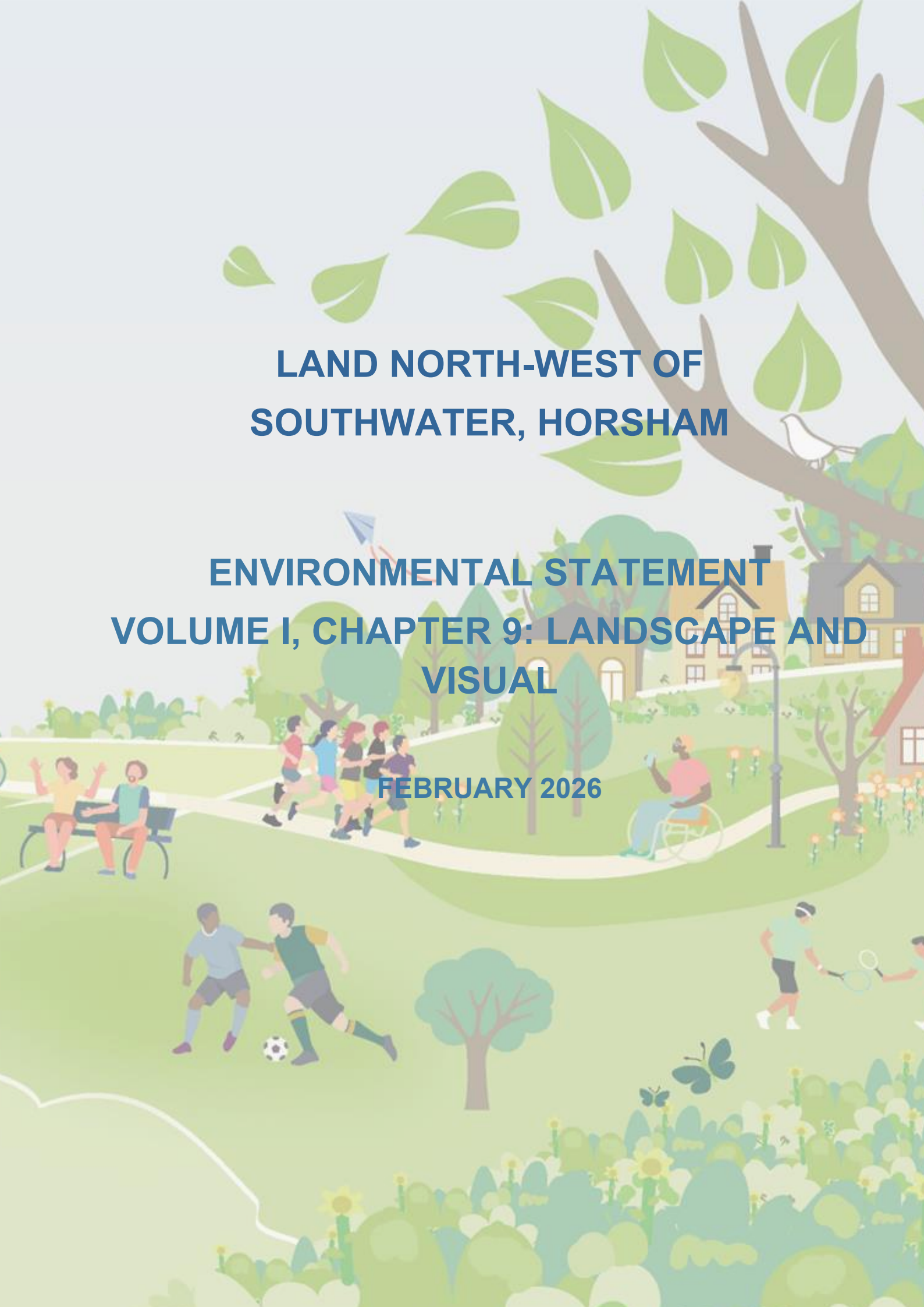
WSP House
70 Chancery Lane
London
WC2A 1AF

**wsp.com**

# LAND NORTH-WEST OF SOUTHWATER, HORSHAM

# ENVIRONMENTAL STATEMENT VOLUME I, CHAPTER 9: LANDSCAPE AND VISUAL

FEBRUARY 2026



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## *APPENDICES*


Appendix 9 - LVIA Appendices

# 9. LANDSCAPE AND VISUAL

## 9.1. INTRODUCTION

9.1.1. This chapter reports the outcome of the assessment of likely significant effects arising from the Proposed Development in respect of impacts on landscape and views.

9.1.2. The assessment has established that the following additional mitigation measures are required:

- Construction Environment Management Plan (CEMP)
- Landscape and Environmental Management Plan (LEMP)

9.1.3. The following residual effects during operation have been identified, and are direct and long term:

- NCA 12 Low Weald - **Minor Adverse (not significant)**
- West Sussex Landscape Character Area H1 Central Low Weald - **Minor Adverse (not significant)**
- Horsham District Landscape Character Area H1 Southwater and Christ's Hospital Farmlands - **Minor Adverse (not significant)**
- Overall Site character - **Moderate Adverse (significant)**
- Site Landform - **Moderate Adverse (significant)**
- Site Land Use - **Major Adverse (significant)**
- Site Vegetation - **Moderate Beneficial (significant)**
- Site Function - **Minor Adverse (not significant)**
- Walkers within proximity using bridleways SOW-1662, SOW-3568 (the Downs Link), footpaths SOW-1660, SOW-1658, SOW-1656, SOW-1655, SOW- 1628-3 through Car Park Site and main Site - **Moderate Adverse (significant)**
- Walkers within the local landscape from PRoW ITC-1651 to the west of the Site - **Minor Adverse (not significant**)
- Transient users of Christ's Hospital Station and car park – **Moderate Adverse (significant)**
- Transient users of Two Mile Ash Road - **Minor Adverse (not significant)**
- Transient users of Worthing Road, Chessall Avenue and the roundabout junction to the A24 from Worthing Road - **Major Adverse (significant)**
- Transient users of Marlpost Road and Church Lane - **Negligible Adverse (not significant)**
- Residents immediately adjacent to the Site - **Moderate Adverse (significant)**
- Residents of Grade II* Listed Great House Farmhouse - **Moderate Adverse (significant)**
- Residents of Grade II Listed College Farmhouse - **Minor Adverse (not significant)**
- Those at Grade II Listed Holy Innocents Church and Christ's Hospital School - **Minor Adverse (not significant)**

9.1.4. The remainder of this chapter describes the assessment methodology and the baseline conditions relevant to the assessment, which have been used to reach these conclusions, as well as a summary of the likely significant effects leading to the additional mitigation measures required to avoid, prevent, reduce or, if possible, offset any likely significant adverse effects, and the likely residual effects and any required monitoring after these measures have been employed. Opportunities for environmental enhancement are also discussed.

## 9.2. CONSULTATION, SCOPE, METHODOLOGY AND SIGNIFICANCE CRITERIA

### CONSULTATION UNDERTAKEN TO DATE

9.2.1. The Landscape and Visual Baseline Assessment, including the ZTV mapping along with the Methodology, were issued as part of the Scoping Input and as a Technical Note for pre-application meeting on 22nd September 2025. The methodology and selection of VPs was agreed via the Scoping Response and additional VP photography was requested from Ines Watson, Specialists Team Leader (Landscape Architect) at Horsham District Council, via email on 20th October 2025. In addition, existing VP locations were amended to address Officer requests. Details of correspondence, relevant to the LVIA are summarised below:

- Confirmation received that the LVIA methodology is satisfactory and in compliance with the principles and guidance set out in GLVIA 3.
- Winter photography requested and provided at **Volume 2**, **Appendix 9.4: Representative Winter Views – December 2025**.
- VVMs requested as part of submission. 5 no. wireframe VVMs are provided at **Volume 2, Appendix 9.7: Verified Visual Montages**.
- Clarification requested that users of the Site's public footpaths will be considered within the assessment of effects for visual receptors. Scoping report referenced within the pre-application meeting which confirms visual receptors are inclusive of those using the public footpaths within the Site.
- Additional viewpoint requested – 4a at Two Mile Ash Road. Location of viewpoint 4 repositioned to requested location. Explanation given at pre-app meeting that pedestrian safety for photographer considered for this location.
- Viewpoint 5 requested to change orientation slightly to represent the change with the proposed access. Vegetation removal requested to be shown within VVM for this view. Vegetation removal as a result of the access is indicated on the VVM at this outline stage.
- Photograph G needs to assess views towards the school site/ road and development. Viewpoint location and orientation repositioned accordingly.
- Additional view from PRoW 1660 towards the development, once again to test mitigation, boundary and development materials as well as heights. Viewpoint 6a added in requested location.
- Photograph T suggested to be relocated closer to the edge of the woodland belt. During the pre-app meeting it was explained that at the location of photograph T there are views to Grade II* Listed Great House Farmhouse. As such, location of photograph T remains as per original location.
- Viewpoint 18 requested to change orientation looking more northwards. Viewpoint photography repositioned accordingly.
- Viewpoint 20 requested to change orientation looking more northwards. Viewpoint photography repositioned accordingly.
- Viewpoint 21 requested to change orientation looking more southwards. Viewpoint photography repositioned accordingly.

9.2.2. In addition, VVMs have been prepared for five VP locations (based on the parameter plans and illustrative masterplan, 2026) **Ref 9.1**. These are presented at **Appendix 9.7** and have been prepared in accordance with Landscape Institute's Technical Guidance Note 6/19 (TGN 6/19). A full

VVM methodology can be provided on request. The locations of the VVMs have been agreed with the Landscape Officer at Horsham District Council, via email correspondence in January and are summarised below:

- VVM 1 (Viewpoint P3) - View looking northeast from the Downs Link (bridleway SOW-3568) towards Courtland Wood. Field parcels and views of the Great Farmhouse are glimpsed to the east from this location.
- VVM 2 (Viewpoint 6A) - View looking east from Public Right of Way (ProW)Footpath SOW-1660, across the fields in the west of the Site. Boundary hedgerows and trees within the Site are apparent. Smith's Copse and Courtland Wood (both Ancient Woodland) within the Site form prominent features on the treed skyline.
- VVM 3 (Viewpoint 10) - View looking northeast from PRoW Footpath SOW-1658 towards the Site. There are open views of Courtland Wood Ancient Woodland within the Site and the southwestern field parcel. Wider views of the Site are truncated by the intervening layers of vegetation.
- VVM 4 (Viewpoint 18) - View looking southwest towards the Site from Worthing Road. There are open views of part of the eastern Site boundary vegetation. Beyond there are glimpsed views of the woodland / trees within the south of the Site.
- VVM 5 (Viewpoint 21) - View looking west towards the Site from Worthing Road and Roberts Close. There are open views of part of the eastern boundary hedgerow, and beyond this, trees within the Site are apparent on the skyline, together with the water tower at Christ's Hospital.

9.2.3. A request from the Council's Landscape Officer for an additional VVM at Viewpoint 5 was considered; however, the location was discounted on the grounds of health and safety constraints associated access to the roadway.

9.2.4. The VVMs model the Building Heights Parameter Plan **(Ref 9.2)** as a red 'wireline'. The wireline is inclusive of maximum roof heights as set out on the Building Heights Parameter Plan, as per the below:

- Up to 1 storey residential (6m ridge height)
- Up to 1 storey barns redevelopment (7m ridge height)
- Up to 2 storey employment (13m ridge height)
- Up to 2 storey primary school and nursery (11m ridge height)
- Up to 2 storey secondary school 11m ridge height)
- Up to 2 storey residential (9m ridge height)
- Up to 3 storey residential (12m ridge height)
- Up to 3 storey mixed-use (12m ridge height)

9.2.5. The VVMs show the parameters as set out above and therefore are not wholly indicative of the variety of built form, articulation of elevations and roofscape. In reality, even at the maximum parameter envelope, the development would not present as a continuous three-storey frontage. Instead, the built form would display variation in height and articulation, with clear breaks between rooflines depending on the proposed arrangement of the housing layout at reserved matters stage. Proposed planting has been based on the Illustrative Landscape Masterplan to provide an indication of the type of planting that could be delivered.

9.2.6. Panoramic views have been taken and presented for information. Full size extracts, presented in accords with TGN 6/19 can be provided on request.

**Table 9-1 - Summary of consultation undertaken**

| Body / organisation | Individual / stat body / organisation | Meeting dates and other forms of consultation | Summary of outcome of discussions |
|---|---|---|---|
| Horsham District Council | Ines Watson – Specialist Team Leader (Landscape Architect) | Email 20.10.25 | Agreement of LVIA methodology, request for winter photography, additional viewpoints and amendments to viewpoint locations. |
| Horsham District Council | Ines Watson – Specialist Team Leader (Landscape Architect) | Email 21.01.25 | Agreement of VVM locations |

## SCOPE OF THE ASSESSMENT

9.2.7. The scope of this assessment has been established through an ongoing scoping process. Further information can be found in **Volume 1, Chapter 5: Approach to EIA**.

9.2.8. This section provides an update to the scope of the assessment and re-iterates the evidence base for scoping out elements following further iterative assessment.

### ELEMENTS SCOPED OUT OF THE ASSESSMENT

9.2.9. The elements shown in **Table 9-2** are not considered to give rise to likely significant effects as a result of the Proposed Development and have therefore not been considered within this assessment:

**Table 9-2 - Elements scoped out of the assessment**

| Element scoped out | Justification |
|---|---|
| Landscape Character of the Contextual Landscape | Assessed at this scale through consideration of West Sussex Landscape Character Area H1 Central Low Weald and Horsham District Landscape Character Area H1 Southwater and Christ's Hospital Farmlands. |

### ELEMENTS SCOPED INTO THE ASSESSMENT

#### Construction Phase

9.2.10. The following elements are considered to have the potential to give rise to likely significant effects during construction of the Proposed Development and have therefore been considered within this assessment:

- Natural England NCA 121 Low Weald;
- West Sussex Landscape Character Area H1 Central Low Weald;
- Horsham District Landscape Character Area H1 Southwater and Christ's Hospital Farmlands;
- Landscape Character of the Site and its Setting;
- Site Landform and Drainage;
- Site Vegetation;

- Site Land Use;
- Site Function;
- Walkers within proximity using bridleway SOW-1662, bridleway SOW-3568 (the Downs Link), footpath SOW-1660, footpath SOW-1658, footpath SOW-1656 and footpath SOW-1655 and footpath SOW- 1628-3 through the Car Park Site and the main areas of the Site;
- Walkers within the local landscape from PRoW ITC-1651 to the west of the Site;
- Transient users of Christ's Hospital Station and carpark to the west of the Car Park Site;
- Transient users of Two Mile Ash Road to the west of the Site;
- Transient users of Worthing Road, Chessall Avenue and the roundabout junction to the A24 from Worthing Road, to the east of the Site;
- Transient users of Marlpost Road and Church Lane, to the south of the Site;
- Those in homes immediately adjacent to the Site;
- Those at Grade II* Listed Great House Farmhouse; and
- Those at Grade II Listed Holy Innocents Church and Christ's Hospital School.

9.2.11. The following elements are considered to have the potential to give rise to likely significant effects during operation of the Proposed Development and have therefore been considered within this assessment:

- Natural England NCA 121 Low Weald;
- West Sussex Landscape Character Area H1 Central Low Weald;
- Horsham District Landscape Character Area H1 Southwater and Christ's Hospital Farmlands;
- Landscape Character of the Site and its Setting;
- Site Landform and Drainage;
- Site Vegetation;
- Site Land Use;
- Site Function;
- Walkers within proximity using bridleway SOW-1662, bridleway SOW-3568 (the Downs Link), footpath SOW-1660, footpath SOW-1658, footpath SOW-1656 and footpath SOW-1655 and footpath SOW- 1628-3 through the Car Park Site and the main areas of the Site;
- Walkers within the local landscape from PRoW ITC-1651 to the west of the Site;
- Transient users of Christ's Hospital Station and carpark to the west of the Car Park Site;
- Transient users of Two Mile Ash Road to the west of the Site;
- Transient users of Worthing Road, Chessall Avenue and the roundabout junction to the A24 from Worthing Road, to the east of the Site;
- Transient users of Marlpost Road and Church Lane, to the south of the Site;
- Those in homes immediately adjacent to the Site;
- Those at Grade II* Listed Great House Farmhouse; and
- Those at Grade II Listed Holy Innocents Church and Christ's Hospital School.

## EXTENT OF THE STUDY AREA

9.2.12. For the purposes of the LVIA, a 3km study area from the centre of the site has been used to assess the effects of the proposals. 3km has been considered in acknowledgement of the scale of the Proposed Development, the undulating nature of the local topography and the extent of vegetation cover within the immediate environs. This is not to say that there will not be views of the site from outside this study area; however, it is considered that more distant views are likely to be limited and

in any event the Proposed Development would only be seen as a small element of a wider panorama.

### TEMPORAL SCOPE

9.2.13. 2025 has been taken as the baseline year for defining the existing landscape. Landscape and visual effects change over time as the existing landscape external to the Proposed Development evolves and proposed mitigation planting establishes and matures. The assessments therefore report on potential effects during construction, decommissioning and at operation both during Year of opening – Year 1 and Year 15 once the embedded mitigation is expected to be established. The assessments have been carried out, as is best practice, by assuming the worst-case scenario, i.e. on a clear bright day, when haze would not interfere with the clarity of the view obtained.

### METHOD OF BASELINE DATA COLLATION

#### DESK STUDY

9.2.14. The desktop survey carried out as part of this Chapter included the review of Ordnance Survey (OS) maps, interactive maps, aerial photography, published landscape character assessment documents, planning policy and the emerging Proposed Development.

9.2.15. Local features relating to natural, cultural and social, perceptual and aesthetic aspects, which together combine to create a series of key characteristics and character areas, have been ascertained, considering the relevant published landscape character assessments.

9.2.16. VPs within the ZTV have also been identified, based on research on access and recreation, including footpaths and bridleways, popular vantage points and distribution of population, for verification in the field, as set out below.

9.2.17. The desk top assessment also identifies any likely changes to the current baseline situation which are likely to be in place prior to the Proposed Development proceeding.

#### FIELD WORK

9.2.18. The field work was carried out in August 2025 (when vegetation was in leaf) and December 2025 (when vegetation was not in leaf) and recorded the existing landscape elements within the Site; the contextual landscape elements; and identified a series of representative visual receptors.

9.2.19. The field work has considered the perceptual qualities of the landscape, including tranquillity. Skyline and detracting features have also been noted in the field.

9.2.20. The visual baseline has established the area in which the Site and the Proposed Development may be visible, the different groups of people who may experience views, the places where they will be affected and the nature, character and amenity of those views.

9.2.21. The visual assessment element includes a photographic survey of the Site taken from a series of representative VPs, chosen to reflect a range of locations including both public and private views, distances and directions around the Site. The selection of final VPs used for the assessment has taken account of a range of factors, including the following:

- The requirement to provide an even spread of representative, specific, illustrative, or static / kinetic / sequential / transient VPs within the ZTV and around all sides of the Site.
- From locations which represent a range of near, middle, and long distant views (although the most distant views may be discounted if it is judged that visibility is extremely limited).

- Views from sensitive receptors within designated, historic, or cultural landscapes or heritage assets and public vantage points.
- The inclusion of strategic / important / designed views and vistas identified in published documents.
- The selection of VPs considering cumulative views of the Proposed Development in conjunction with other developments.

**ASSESSMENT METHODOLOGY**

9.2.22. The Landscape and Visual (L&V) assessment has been undertaken in accordance with the principles set by the Landscape Institute and Institute of Environmental Management and Assessment in the Guidelines for Landscape and Visual Impact Assessment Third Edition (2013) **(Ref 9.3).** The photography, alongside the VVMs have been prepared in accordance with Technical Guidance Note 06/19 on Visual Representation of Development Proposals (Landscape Institute, 17 September 2019) and Technical Guidance Note 02/21: Assessing Landscape Value Outside National Designations (Landscape Institute, February 2021). The detailed methodology adopted for this assessment is set out at **Volume 2, Appendix 9.1: Landscape and Visual Impact Assessment Methodology**, which includes the method of baseline data collection.

9.2.23. The L&V assessment involved a combination of desk and field based studies. The value of the landscape and visual receptor has been assessed at the baseline stage. The susceptibility to the proposed change and therefore the sensitivity of each of the landscape and visual receptors has been attributed at the impact assessment stage. Refer to **Appendix 9.1** for detail of the methodology and associated criteria tables.

9.2.24. A summary of the key steps in the methodology for the L&V assessment are as follows:

- The baseline section of the L&V assessment includes web-based information and published documents available at the time of writing.
- The landscape of the study area as initially defined by the Zone of Theoretical Visual Influence (ZTVI) was analysed (through both desk-based and field survey work) and landscape receptors identified.
- The visual baseline was recorded in terms of the different groups of people (including residents; the travelling population using roads, railway line and PRoW; those using open spaces and engaged in outdoor sport activities; those at their place for work; and those visiting attractions) who may experience views of the Development and the nature of their existing views and visual amenity.
- Representative viewpoints were selected based on a range of views of the existing Site (and a total of five) agreed with the Landscape Officer at Horsham District Council).
- A number of visualisations have been prepared to show how the proposals would sit in the landscape. These include Wire Line Photomontages (Type 3 visualisations, which represent appearance, context, form and extent of development).
- Likely significant effects on landscape and visual resources were identified.
- The groups of visual receptors have been assessed based on a range of representative viewpoints to determine separately the construction phase and the operational phase effects.
- The significance of landscape and visual effects were judged with reference to the sensitivity of the resource / receptor (a combination of its value and susceptibility) alongside the magnitude of effect (a combination of the scale / size of effect, geographical extent and duration / reversibility).

The operational phase assessment of the Development assesses the effects of the Development shown on the Parameter Plans.

**SIGNIFICANCE CRITERIA**

9.2.25. The significance level attributed to each effect has been assessed based on the sensitivity/value of the affected receptor(s) and the magnitude of change arising from the Proposed Development, as well as several other factors that are outlined in more detail in **Appendix 9.1**. The sensitivity of the affected receptor is assessed on a scale of high, medium, low and negligible, and the magnitude of change is assessed on a scale of large, medium, small, negligible and no change, as set out in **Appendix 9.1**.

**EFFECT SIGNIFICANCE**

9.2.26. The following terms have been used to define the significance of the effects identified and apply to both beneficial and adverse effects:

- **Major effect**: where the Proposed Development could be expected to have a substantial improvement or deterioration on receptors
- **Moderate effect**: where the Proposed Development could be expected to have a noticeable improvement or deterioration on receptors
- **Minor effect**: where the Proposed Development could be expected to result in a perceptible improvement or deterioration on receptors; and
- **Negligible**: where no discernible improvement or deterioration is expected as a result of the Proposed Development on receptors, including instances where no change is confirmed.

9.2.27. As set out in **Volume 1, Chapter 5: Approach to EIA** and **Volume 2, Appendix 9.1: LVIA Methodology**, effects that are classified as **moderate or above** are considered to be **significant**. Effects classified as below **moderate** are considered to be **not significant**.

**LIMITATIONS AND ASSUMPTIONS**

9.2.28. The following limitations and assumptions apply:

- Whilst background information has been gathered relative to heritage assets and the cultural landscape to understand the historic landscape, the assessment of effects on the setting to heritage assets is set out in **Volume 1,Chapter 7 – Cultural Heritage and Archaeology**. The LVIA does include an assessment of change to the landscape setting to these assets.
- The assessment of landscape and visual effects is based on:
  - Parameter Plan - Land Use
  - Parameter Plan - Building Heights
  - Parameter Plan - Access and Movement
  - Parameter Plan - Green and Blue Infrastructure
  - Parameter Plan - Design Framework
- The assessment also considers planting as shown on the Illustrative Landscape Masterplan that can be delivered within the areas of proposed green infrastructure.
- Planting heights assumed for the VVMs are based on:
  - Large trees - year 1: 4.5m, year 15: 8.7m
  - Medium trees - year 1: 3.5m, year 15: 7.7m

- Small trees - year 1: 2.5m, year 15: 6.7m
- Orchard trees - year 1: 1.5-2m, year 15: 5.5m
- Woodland understory / shrubs - year 1: 600m, year 15: 1.5m
- Native hedge - year 1: 600m, year 15: 1.5m

- To present a conservative scenario, the assessment assumes that the maximum development parameters would be met.
- Existing vegetation would continue to grow at rates typical of its location, species and maturity, assumed to be 300mm per annum.
- Distances from viewpoint locations to the nearest site boundary were calculated using Google Earth Pro and are therefore approximate.
- For the visual assessment, the receptor is a standing adult with an eye height of 1.7 metres above ground level.
- Visual effects are assessed based on good visibility. Visual effects can be expected to vary, with poor visibility at times of low cloud, rainfall and at dusk. At these times a reduction in visual clarity, colour and contrast would be experienced. Reduced visibility would limit the extent of views, particularly long-distance views. Therefore, the assessment of effects presents a conservative scenario, when the Proposed Development would be most visible.
- The assessment of effects will be based on the worst-case scenario and likely significance of effect throughout. However, through the application of the matrix this often shows a range of effects with some considered in balance through the application of professional judgement.
- The assessment is based on publicly accessible locations. Professional judgement is used to determine the likely effects from private properties.
- The assessment of visual effects on any temporary construction workers has not been included, as they are not included in the baseline scenario and the character and amenity of their view wholly relates to the activities that they are involved in.
- The assessment of effects at the operational phase, considers the whole Proposed Development implemented and completed.
- It is assumed that the proposed built form and green spaces during the operational phase will be of good design, reflect local vernacular and that both the built and green environments will be distinctive and well connected with the surrounding townscape and landscape.
- The Proposed Development seeks to minimise effects on the night-time character as far as possible during the construction for security purposes. Directional lighting would be provided where possible, with street lighting kept to a minimum and designed to best practice guidance which includes the requirements to minimise contribution towards sky glow. Assumptions regarding a sensitive lighting scheme are set out in submitted Design and Access Statement.

## 9.3. POLICY AND GUIDANCE

9.3.1. The following guidance documents have informed the methodology for this LVIA:

- ‘Guidelines for Landscape and Visual Impact Assessment’ (third edition), Landscape Institute and Institute of Environmental Management and Assessment, 2013.

- ‘Visual Representation of Development Proposals’ Technical Guidance Note 06/19, Landscape Institute, 17 September 2019.
- ‘Residential Visual Amenity Assessment’ Technical Guidance Note 2/19, Landscape Institute, 2019.
- ‘The Setting of Heritage Assets’, Historic England, 2017.

9.3.2. Horsham District Council’s relevant policy is set out within the following documents:

- Horsham District Planning Framework (HDPF), 2015
- Emerging Local Plan - The Horsham District Local Plan 2023 - 2040 (Regulation 19)
- Southwater Neighbourhood Development Plan (June 2021)

9.3.3. Pertinent policies are listed below:

Horsham District Planning Framework (HDPF)

- Policy 4 Strategic Policy: Settlement Expansion
- Policy 25 Strategic Policy: The Natural Environment and Landscape Character
- Policy 31 Green Infrastructure and Biodiversity
- Policy 32 Strategic Policy: The Quality of New Development
- Policy 34 Cultural and Heritage Assets
- Policy 4 Strategic Policy: Settlement Expansion

Horsham District Local Plan 2023 - 2040 (Reg 19)

- Strategic Policy 13: The Natural Environment and Landscape Character
- Strategic Policy 17: Green Infrastructure and Biodiversity
- Strategic Policy 19: Development Quality
- Strategic Policy 20: Development Principles
- Strategic Policy 21: Heritage Assets and Managing Change within the Historic Environment
- Strategic Policy 28: Community Facilities and Uses
- Strategic Policy HA3: Land North West of Southwater

Southwater Neighbourhood Development Plan:

- SNP2 Proposals for new residential development
- SNP12 Outdoor Play Space
- SNP16 Design
- SNP18 A Treed Landscape
- SNP19 Parish Heritage Assets

9.3.4. Furthermore, the following guidance documents are relevant material considerations:

- National Planning Policy Framework, Planning Practice Guidance,
- National Design Guide and National Model Design Code,
- Landscape Character Guidelines,
- Horsham District Landscape Capacity Assessment (2021),
- Southwater Landscape Sensitivity & Capacity Study, Prepared for Southwater Parish Council (June 2018),

- Horsham District Sport, Open Space and Recreation Assessment, February 2014,
- Open Space, Sport & Recreation Review, 2021,
- Green Infrastructure Strategy Horsham District Planning Framework, April 2014.

9.3.5. As such, the below points are to inform the emerging development:

- Development should be landscape-led from the outset.
- Development should be contained within an existing defensible boundary and the landscape character features should be maintained and enhanced.
- Proposals should maintain and enhance the green infrastructure network and existing biodiversity, whilst contributing to the delivery of public open space (in accordance with Policy 28 requirements), and the local nature recovery strategy.
- High quality and inclusive design should be achieved that complements locally distinctive character and heritage, contributes positively to the sense of place and secures a framework of high-quality open space.
- Retain and improve (where possible) the setting of heritage assets.
- Seek to retain the tranquil character and setting of the Downs Link.
- Retain some of the rural aspect of the from PRoW across the Site.
- Incorporate key views as identified into the development layout, responding positively to pertinent features within the landscape and pertinent features within the Site.
- Protect and enhance the setting to the areas of Ancient Woodland within the Site.
- Retain natural and semi-natural habitats where possible.
- Create native species-rich hedges through the development and retain existing wildlife corridors.
- Respect heritage assets and their setting, with regard to the design and layout of the development.
- Seek to provide one new tree (standard at 8-10cm girth) per 40m2 of development.

## 9.4. BASELINE CONDITIONS

9.4.1. The Site lies on the northwestern edge of Southwater. It is not subject to a landscape designation at the national or regional level and nor does it lie in a strategic viewing corridor protected by policy.

9.4.2. The Site comprises the main parcel, adjacent to Southwater's western settlement edge; and a smaller parcel to the east of Christ's Hospital Station - referred to as the 'Car Park Site'.

9.4.3. The Site is not subject to a landscape designation at the national or regional level. The Site is identified as an allocated Site within the emerging Horsham District Local Plan 2023 - 2040 (Regulation 19). Refer to Policy: HA3 Land North West of Southwater (**Ref. 9.4**). The Site is allocated for residential development (Policy SNP2) within Southwater Neighbourhood Plan (2021).

9.4.4. Ancient Woodland is located within the east and west of the Site - at Smiths Copse, Courtland Wood and Two Mile Ash Gill (**Ref 9.5**). Other areas of Ancient Woodland are found within the study area, beyond the settlement edges. Priority Habitat is scattered across the Study Area (**Ref 9.6**). Southwater Country Park lies to the southeast of the Site and Sedgwick Registered Park and Garden lies to the east. Listed Buildings, are scattered across the local landscape, following road corridors, within settlements. Notable Listed buildings within immediate and proximity to the Site include (**Ref 9.7**):

- Grade II*Listed Great House Farmhouse (within the centre of the Site, outside the Site boundary);
- Grade II Listed College Farmhouse, Holy Innocents church, Vicarage Cottage and Southwater House (to the southeast of the Site);
- Grade II Listed Sayers Farm and Sayers Farmhouse, Christ's Hospital (to the west of the Site).
- Grade II Listed Bodimans, Christ's Hospital (to the West of the Site);
- Grade II*Listed Arts Centre and Music School at Christ's Hospital; and Grade II* Listed Dining Hall and Water Tower to North, School to South, Colonnaded Wings to east and west (Chapel in West Wing) at Christ's Hospital (to the northwest of the Site);
- Grade II listed Lanaways Farmhouse, Christ's Hospital and Lanaways Barn (to the northwest of the Site);
- Grade II Listed Sluetts, Christ's Hospital (to the northwest of the Site).

9.4.5. There is a dense network of PRoW within and around Southwater, including the Downs Link Long Distance Route connecting the settlement and the Site to the more rural areas.

**Landscape Receptors**

**National Landscape Character Area (LCA) 121 'Low Weald'**

9.4.6. At National level the Site forms part of the Landscape Character Area (LCA) 121 'Low Weald'. The key characteristics pertinent to the Site and Study Area are as follows (**Ref 9.8**):

- *'Broad, low-lying, gently undulating clay vales with outcrops of limestone or sandstone providing local variation.*
- *A generally pastoral landscape with arable farming associated with lighter soils on higher ground and areas of fruit cultivation in Kent. Land use is predominantly agricultural but with urban influences.*
- *Field boundaries of hedgerows and shaws (remnant strips of cleared woodland) enclosing small, irregular fields and linking into small and scattered linear settlements along roadsides or centred on greens or commons. Rural lanes and tracks with wide grass verges and ditches.*
- *Small towns and villages are scattered among areas of woodland, permanent grassland and hedgerows on the heavy clay soils where larger 20th-century villages have grown around major transport routes.*
- *Frequent north–south routeways and lanes, many originating as drove roads, along which livestock were moved to downland grazing or to forests to feed on acorns.*
- *The Low Weald boasts an intricate mix of woodlands, much of it ancient, including extensive broadleaved oak over hazel and hornbeam coppice, shaws, small field copses and tree groups, and lines of riparian trees along watercourses. Veteran trees are a feature of hedgerows and in fields.*
- *Many small rivers, streams and watercourses with associated water meadows and wet woodland.*
- *Traditional rural vernacular of local brick, weatherboard and tile-hung buildings plus local use of distinctive Horsham slabs as a roofing material. Weatherboard barns are a feature.'*

9.4.7. The opportunities and landscape changes identified in the assessment pertinent to the Site are set out below:

- *'Protect, manage and significantly enhance the area's intricate and characteristic mix of semi-natural ancient woodlands, gill woodland, shaws, small field copses, hedgerows and individual trees to reduce habitat fragmentation and benefit biodiversity, while seeking to improve and encourage access for health and wellbeing and reinforce sense of local identity;*
- *Conserve and enhance the distinctive historical aspects of the Low Weald landscape, including its important geological features and sites of heritage interest, particularly those associated with Wealden iron industry, enabling access, continued research, interpretation, understanding and enjoyment of the extensive and nationally significant resources;*
- *Work at a landscape scale to improve the quality, state and structure of all Wealden rivers, streams and standing waterbodies and their appropriate flood plains, taking account of water quality, water flow and hydraulic connection with the flood plain, while seeking to enhance biodiversity, historic features and recreation opportunities and reinforcing sense of place;*
- *Maintain the sustainable but productive pastoral landscape of the Low Weald, while expanding and connecting semi-natural habitats to benefit biodiversity, regulating soil and water quality by promoting good agricultural practice, and maintaining the extent and quality of unimproved permanent grassland and meadows. Restore degraded neutral grasslands to buffer sites and encourage pollinators and predators for pest regulation;*
- *Plan for the creation of high-quality blue and green space and green corridors to provide a framework for new and existing development in urban areas and along major transport routes for the enjoyment and wellbeing of communities and to enhance biodiversity.*'

**County Landscape Character Area (LCA) H1 'Central Low Weald'**

9.4.8. The Site forms part of the West Sussex LCA H1 'Central Low Weald'. The key Characteristics are as follows (**Ref 9.9**):

- *'Gently undulating landform.*
- *Predominantly small to medium-sized pasture fields, enclosed by woodlands, shaws and hedgerows.*
- *Some larger arable fields.*
- *Local concentrations of horse grazed paddocks and golf course development.*
- *Dense cover of ancient broadleaved woodlands and conifer plantations.*
- *Small stream valleys draining to the Adur and the Arun.*
- *Some large country houses and parkland.*
- *Green lanes and droveways.*
- *Many scattered, traditional Wealden farmsteads and cottages and a few linear villages.*
- *Crossed by major transport links north south, both road and rail.'*

### District Landscape Character Area (LCA) H1 'Southwater and Christ's Hospital Farmlands'

9.4.9. At the district level, the Site forms part of the LCA H1 'Southwater and Christ's Hospital Farmlands' within Horsham District Council's Landscape Character Assessment (2003) (**Ref 9.10**).

9.4.10. The landscape character of LCA H1 is described as *"Between an area of mixed land uses and transitional character, including considerable woodland, unrestored mineral workings, educational, industrial, horticultural and arable land. The area has undergone significant change in the 20th Century and is impinged upon by settlement at Bricket Wood and How Wood, together with a marked severance by the M25. The historic pattern is well preserved in Bricket Wood Common, but eroded in many other locations, showing poor management and some dereliction."*

9.4.11. The key characteristics of LCA H1 are as follows:

- "*Low ridge and Plateau, with prominent rounded knoll of Sharpenhurst Hill;*
- *Large open character;*
- *Relatively few woodlands and hedgerows;*
- *Lanes with wide grass verges;*
- *Extensive open views; and*
- *Imposing brick buildings of Christ's Hospital School set in parkland surroundings."*

9.4.12. The Landscape sensitivity of LCA H1 is outlined as being "*… moderate due to the moderate visibility and landscape features. Key issue in regard to development include small scale incremental change; land management resulting in more loss of hedgerows and woodland; integrating new development with existing hedgerows and woodland; conserving and restoring hedgerows, hedgerow trees and woodland; and, conserving and restoring historic parkland at Christ's Hospital School.*"

### Landscape Character of the Site and its Setting

9.4.13. The characteristics and features of the Site, defined by fabrik, are as follows:

- Ancient Woodland at Smiths Copse, Courtland Wood and Two Mile Ash Gill, located within the southern section of the Site. The woodland is a prominent feature and contributes towards a treed skyline and rural character to the Site;
- The Site lies within the setting of a notable Grade II* Listed building – Great House Farmhouse, which lies within the centre of the Site (outside the red line). It is anticipated that there are views from the Listed building out over the Site as well as there being views form within the Southern sections of the Site towards the Listed Building;
- The primary landscape features which contribute towards a wooded countryside and edge of settlement character, in addition to the Ancient Woodland include: the gently undulating landform; mature hedgerows, hedgerow trees, and treebelts; areas of woodland cover; individual trees within fields;
- PRoW cross the Site, typically west to east with open views of the agricultural fields, with a wooded skyline to the west and south, and an edge of settlement character to the east. The long-distance route of 'The Downs Link has an enclosed character and follows the old railway line within the south of the Site, connecting the village of Southwater with the rural landscape to the

west. Views out of the Site are predominantly limited to those field parcels in the southwest and north, where the distant treed horizon is appreciated to the west and southwest;

- There are locations within the northeast and centre-east of Site where the Grade II* Listed Dining Hall and Water Tower at Christ's Hospital School and other taller buildings are apparent.

### Site Landform and Drainage

9.4.14. The Site is characterised by a gently undulating plateau landscape that is reflected on Site. The southern section is relatively low in landform and falls to approximately 50m AOD, following a small watercourse - Two Mile Ash Gill. This Gill is a small stream that flows in a southerly direction through the western part of the Site. Ditches also cross the Site in the south to Two Mile Ash Gill, which flows into the River Adur to the south of the Site (outside the Site).

9.4.15. The Site rises to a high point within Courtland Wood at approximately 61m AOD, before falling towards the central and northern section of the Site, to the Dairy Farm and northern edges of the Northern Section to approximately 40m AOD.

9.4.16. The land rises to the northeast, towards the A24, which is the highest level at approximately 63m AOD.

9.4.17. Within the Car Park Site the landform gently undulates towards the west, with the highest point between 45-50m AOD to the southeast.

### Site Vegetation Cover

9.4.18. Woodland comprises ancient and semi natural broad leaf and early mature woodland.

9.4.19. Hedgerows are species rich and generally intact and have regular mature hedgerow trees. Oak and ash trees are common within the Site and there are some scattered field trees, mainly within the southern and central section of the Site.

9.4.20. Within the Car Park Site, hedgerows mark the field boundaries and there are again, notable trees scattered along the Site boundary.

### Site Land Use

9.4.21. The Site predominately comprises a series of agricultural fields used for pasture and arable, bordered by woodland, hedgerows, treelines and fences. A strong network of PRoWs cross the Site mainly east to west, linking the Site to the wider landscape and Southwater. A notable bridleway within the southern section is the Downs Link Long Distant Route, which crosses the Site on an east-west alignment, connecting to the West Sussex Literary Trail, beyond the Site to the west. In addition, informal routes through Courtland Wood (designated as Ancient Woodland) connect with the formal alignment of the PRoW that crosses through the wood. These routes are apparent on historic maps.

9.4.22. Land uses within immediate proximity to the east include residential – as associated with the existing settlement edge, plus recreational with sports and play facilities close to the southeastern boundary.

### Site Function

9.4.23. The current agricultural land use of the southeastern part of the Site informs the rural setting to the Grade II* Listed Great House Farmhouse and Grade II Listed College Farmhouse. In addition, the fields within the west of the Site form part of the rural setting to the Grade II Listed Sayers

Farmhouse; Barn to northwest of Sayers Farmhouse; Bodimans; Lanaways Barn; Lanaways Farmhouse and Sluetts.

**Landscape Receptors for Assessment**

9.4.24. Based on a comprehensive review of published landscape character assessments and analysis of the landscape character of the Site and its context, the following landscape character receptors have been identified against which effects resulting from the Proposed Development have been assessed:

- Natural England NCA 121 Low Weald
- West Sussex Landscape Character Area H1 Central Low Weald
- Horsham District Landscape Character Area H1 Southwater and Christ's Hospital Farmlands
- Landscape Character of the Site and its Setting
- Site Landform and Drainage
- Site Vegetation
- Site Land Use
- Site Function

**Visual Appraisal**

9.4.25. A visual assessment was undertaken to determine the relationship of the Site with its surroundings and the approximate extent of its visibility within the wider landscape as experienced from publicly accessible viewpoints (roads, footways, PRoW and open spaces). Where appropriate, views from private houses have also been considered as part of the description of visibility set out below.

9.4.26. The visibility of the Site is predominantly influenced by landform and the extent and type of vegetation cover and built elements within the surrounding landscape. Baseline studies of these features enabled the identification of the potential visibility of the Site from the surrounding area to be tested through fieldwork.

9.4.27. A ZTV map was prepared to assist in the selection of viewpoints for verification in the field and to inform the assessment of likely visual effects, shown in **Figure 4.1**, **Appendix 9.4**. The ZTV shows the areas from where a development would be theoretically visible. It does not indicate the nature or significance of effects which would be likely to arise. The ZTV models the effect of topography, built form and large blocks of vegetation, but not smaller areas of vegetation - and is therefore only an indication of potential visibility.

9.4.28. The ZTV mapping was prepared for three storey building heights across the whole Site area at the desktop stage. This was presented to Officers through the Landscape and Visual Technical Note (2025) **(Ref 9.11),** as part of the pre-application discussions. The findings of the ZTV were tested by field surveys, in order to robustly and accurately assess the visual effects of the Proposed Development in accordance with GLVIA3, as presented in **Volume 2, Appendix 9.4: Representative Winter Views – December 2025 and 9.5: Representative Summer Views – August 2025.**

9.4.29. To represent the nature of identified views, several representative viewpoints are presented, with locations and degree of openness summarised in plan form. Refer to **Figures 4.2 and 4.3** at

**Appendix 9.4**. The photographs from each location and description of the views are presented at **Appendix 9.4 and 9.5**, capturing winter and summer views.

9.4.30. The photographs have been taken in line with the Landscape Institute's Technical Guidance Note 6/19 Visual Representation of Development Proposals (Landscape Institute, 2019) and are presented at the same scale and resolution, with viewpoint location plans for reference. Photographs were taken at 1.7m eye height above ground level, using a Nikon D300 digital camera with 35mm lens to reflect a full frame sensor view. Panoramic views have been taken and presented for information. Full size extracts, presented in accords with TGN 6/19 can be provided on request. The views are presented alongside smaller contextual panoramas (illustrating the wider extent of the view where relevant) and with the location key plan, all set within one page.

9.4.31. The Landscape Institute's Technical Guidance Note 2/19 Residential Visual Amenity Assessment (Landscape Institute, 2019) has informed the approach to the assessment of residential visual amenity, within the scope of an LVIA.

9.4.32. Fieldwork established that the Site's visibility is influenced by the Site's setting - the settlement edge, topography and adjacent trees. The Site is not subject to any view corridors protected by policy.

9.4.33. The Site and much of the immediately adjacent landscape is low lying, with a prevalence of woodland blocks and trees, with settlements nestled amongst trees and woodland. Overall, this results in a limited Zone of Visual Influence. This is demonstrated by **Figure 4.4, Appendix 9.4** and echoed in the published landscape character baseline, which confirms the overall visual sensitivity of the area.

9.4.34. Visual receptors are grouped and described accordingly below.

**Walkers within proximity using bridleways SOW-1662 and SOW-3568 (the Downs Link), footpaths SOW-1660, SOW-1658, SOW-1656, SOW-1655 and SOW- 1628-3 through the Car Park Site and main Site**

9.4.35. Here the public footpaths travel through the Site, predominately on an east - west alignment, through and in between field parcels connecting the Site to the western edge of Southwater and the landscape beyond to the west of the Site. The trees, woodland (including Ancient Woodland) and fields on Site inform the character and amenity of views. From locations as identified at **Figure 2.7** at PRoW within the east of the Site, there are views of the tower at Christ's Hospital School.Refer to **Appendix 9.2, Figure 2.7** and photograph locations A, G, H, I, J, L, M, N, O, P1-3, Q, T, and **Appendix 9.4, Figure 4.2** – viewpoints (VPs) 2, 6, 10, 15, 17, 20, 22. Also identified in **Table 9.**3 and **Table 9.4**.

**Walkers within the local landscape from PRoW ITC-1651 to the west of the Site**

9.4.36. Walkers experience partial views of the western boundary vegetation and internal woodland / hedgerow within the west of the Site. The visible vegetation within the Site contributes towards a well treed and verdant mid-ground, with the South Downs National Park ridgeline in forming the skyline to the southeast, which intern informs the character of the view. Refer to **Appendix 9.4, Figure 4.2** and VP 24.

### Transient users of Christ's Hospital Station and carpark to the west of the Car Park Site

9.4.37. As you travel in and out of the station and its carpark southwards, there are open views of the boundary vegetation, mature trees, vegetation and open grassland within the Site. Refer to **Appendix 9.4, Figure 4.2** and VP 1.

### Transient users of Two Mile Ash Road to the west of the Site

9.4.38. Due to the irregular openings in the hedgerow along Two Mile Ash Road, there are a combination of open - truncated views as the receptor travels along the road corridor north-south. Those open views predominantly comprise boundary hedgerow vegetation and small areas of the western internal field parcels. The boundary hedgerow informs the character of this transient view. Refer to **Appendix 9.4, Figure 4.2** and VPs 4, 5, 6, 8, 9 and 10.

### Transient users of Worthing Road, Chessall Avenue and the roundabout junction to the A24 from Worthing Road, to the east of the Site

9.4.39. As you travel along Worthing Road, there are open and partial views of the eastern field parcels, set behind boundary hedgerow and trees. North of Worthing Road, adjacent to the roundabout junction with the A24, there are open views of the Site's northern field parcels. Here, the mature hedgerow and trees within the Site, as well as the large-scale agricultural buildings inform the character of the view. From the A24 roundabout and the junction of Worthing Road and Chessall Avenue, there are views of the tower at Christ's Hospital School. Refer to **Appendix 9.4, Figure 4.2** and VPs 18 – 23.

### Transient users of Marlpost Road and Church Lane, to the south of the Site

9.4.40. Partial views of the Site occur from limited locations along Marlpost Road and Church Lane, where there are views of the southeastern Site boundary vegetation in between the roadside vegetation. The Site boundary vegetation contributes towards a wooded character of the view. Refer to **Appendix 9.4, Figure 4.2** and VPs 11 and 14.

### Residents immediately adjacent to the Site

9.4.41. Open and partial views of the field parcels and woodland within the Site are experienced from the rear elevations and gardens of those residents at Worthing Road, Chessall Avenue, Fletchers, Allendale, New Road, Two Mile Ash Road and Church Lane. These residential receptors lie immediately adjacent to and within proximity to the Site's eastern and western boundary, where the wooded character and internal field parcels, with a verdant skyline informs the character of the view. Refer to **Volume 2, Appendix 9.2: LVIA Figures, Figure 2.7** and photograph locations A, B, H, I, J, K, M, P1 – P3, R, S, T, and **Appendix 9.4, Figure 4.2** VPs 8, 9, 10, 14, 17, 18, 19, 20, 21, 22.

### Residents of Grade II* Listed Great House Farmhouse

9.4.42. Open views of part of the Site's southern / central field parcels are experienced from the southwestern and northern elevation of Great House Farmhouse. Some hedgerow vegetation frames the residential curtilage of Great House Farmhouse, with views experienced above / beyond this boundary and in which the agricultural land use, and woodland informs the character and amenity of views. Refer to **Appendix 9.2, Figure 2.7** and photograph location O.

### Residents of Grade II Listed College Farmhouse

9.4.43. Glimpsed views of part of the Site's southwestern field parcels are anticipated to be experienced from eastern elevations of College Farmhouse. Mature Hedgerow frames the residential curtilage of the farmhouse, which in turn filters views beyond this boundary. **Appendix 9.4, Figure 4.2** VPs 16.

### Residents of Grade II Listed Holy Innocents Church and Christ's Hospital School

9.4.44. From both these locations there are partial views of the Site's boundary vegetation (southeastern boundary vegetation from Holy Innocents Church; and western boundary vegetation from Christ's Hospital School), filtered by layers of intervening vegetation. The Site boundary vegetation creates a wooded skyline and character to these views. Refer to **Appendix 9.4, Figure 4.2** VPs 7 and 14.

### Visual Receptors for Assessment

9.4.45. Based on the visual assessment, a series of visual receptors have been selected against which the effects of the Proposed Development on visual amenity have been assessed. Any visual receptors considered not to have the potential to experience significant visual effects have been scoped out. The visual receptors that are included within the scope of the impact assessment are:

- Walkers within proximity using bridleway SOW-1662, bridleway SOW-3568 (the Downs Link), footpath SOW-1660, footpath SOW-1658, footpath SOW-1656 and footpath SOW-1655 and footpath SOW- 1628-3 through the Car Park Site and the main areas of the Site
- Walkers within the local landscape from PRoW ITC-1651 to the west of the Site
- Transient users of Christ's Hospital Station and carpark to the west of the Car Park Site
- Transient users of Two Mile Ash Road to the west of the Site
- Transient users of Worthing Road, Chessall Avenue and the roundabout junction to the A24 from Worthing Road, to the east of the Site
- Transient users of Marlpost Road and Church Lane, to the south of the Site
- Those residents in homes immediately adjacent to the Site
- Those at Grade II* Listed Great House Farmhouse
- Those at Grade II Listed Holy Innocents Church and Christ's Hospital School

## FUTURE BASELINE

9.4.46. It is anticipated that a residential led mixed use development would take place in line with the draft allocation in the emerging Horsham District Local Plan. The exact nature of any changes to the baseline may vary.

9.4.47. Without the Proposed Development in place, the baseline landscape elements and visual conditions would evolve considering the continued growth, spread, and maturing of the range of vegetation types across the Site. The existing arable farmland would continue to be managed as farmland. Consequently, the resulting future baseline would not significantly change over time, in line with the current landscape elements and visual conditions.

## 9.5. RECEPTORS FOR ASSESSMENT OF EFFECTS

9.5.1. The pertinent sensitive receptors relating to the study area and the Site, along with their value and susceptibility to the proposed change the combination of which informs their sensitivity, are set out below:

### Natural England NCA 12 Low Weald

9.5.2. Described in paragraphs 9.4.6-7 above, a value of medium is judged as a result of the good landscape condition, some open access / common land and PRoW, plus some components that contribute positively to landscape character. NCA 12 has a low susceptibility as the Proposed Development is unlikely to alter the overall integrity of the receptor and could incorporate recommendations as set out in the NCA guidelines. NCA 12 sensitivity is as such judged to be medium.

### West Sussex Landscape Character Area H1 Central Low Weald

9.5.3. Described in paragraph 9.4.8 above, a value of medium is judged, as a result of the good landscape condition, some open access / common land and PRoW, plus some components that contribute positively to landscape character. LCA H1 is judged to have a medium susceptibility, as the Proposed Development may potentially alter the overall integrity of the receptor and could integrate recommendations as set out in the guidelines. LCA H1's sensitivity is as such judged to be medium.

### Horsham District Landscape Character Area H1 Southwater and Christ's Hospital Farmlands

9.5.4. Described in paragraphs 9.4.9-12 above, a value of medium is judged, as a result of the good landscape condition, some open access / common land and PRoW, plus some components that contribute positively to landscape character. LCA H1 is judged to have a medium susceptibility, as the Proposed Development may potentially alter the overall integrity of the receptor and could integrate recommendations as set out in the guidelines. LCA H1's sensitivity is as such judged to be medium.

### Overall Site Character

9.5.5. Described at paragraph 9.4.13 above, value is assessed as medium – high, as there are some components that contribute positively to character, condition is good, plus the Site is crossed by PRoW and includes Ancient Woodland. Susceptibility is assessed as medium, as whilst the Proposed Development could incorporate recommendations as set out in published guidelines, the Proposed Development is likely to alter the overall integrity of the receptor. A high sensitivity is therefore judged.

### Site Landform

9.5.6. Described at paragraphs 9.4.14-17 above, value is assessed as medium, as landform is typical of the Site's setting in that it is low lying and crossed by small water courses. Susceptibility is assessed as medium, as although landform has a well-defined composition and direct relationship to adjacent characteristics, as whilst the Proposed Development could alter some of the composition of the landform, it can incorporate recommendations as set out in published guidelines. A medium sensitivity is therefore judged.

### Site Land Use

9.5.7. Described at paragraphs 9.4.21-22 above, value is assessed as medium, as those land uses within the Site are typical of the wider study area, with agricultural uses contributing positively to character, as referenced within published assessments. Susceptibility is judged as high as, whilst the Proposed Development is likely to incorporate recommendations as set out in published guidelines, the overall integrity of the receptor will alter. A high sensitivity is therefore judged.

### Site Vegetation

9.5.8. Described at paragraphs 9.4.18-20 above, value is assessed as high as national and local designations are present, including Ancient Woodland and veteran trees. Susceptibility is assessed as low as the Proposed Development could retain the overall integrity of the receptor and incorporates recommendations as set out in published guidelines. A medium sensitivity is therefore judged.

### Site Function

9.5.9. Described at paragraph 9.4.23 above, value is assessed as medium as the current agricultural land use of the central part of the Site informs a small part of the wider setting to the Grade II* Listed Great House Farmhouse and Grade II Listed College Farmhouse, plus Grade II Listed; Sayers Farmhouse; Barn to north west of Sayers Farmhouse; Bodimans; Lanaways Barn; Lanaways Farmhouse and Sluetts. Susceptibility is assessed as low as the Proposed Development is unlikely to alter the overall integrity of the receptor and could incorporate recommendations as set out in published guidelines. A low-medium sensitivity is therefore judged.

### Walkers within proximity using bridleways SOW-1662 and SOW-3568 (the Downs Link), footpaths SOW-1660, SOW-1658, SOW-1656, SOW-1655 and SOW-1628-3 through the Car Park Site and main Site

9.5.10. Value is assessed as medium as views from these routes inform part of the experience. Susceptibility is assessed as high as people travelling along the PRoW are focused on the landscape with the view contributing to the amenity experience. A high sensitivity is therefore judged.

### Walkers within the local landscape from PRoW ITC-1651 to the west of the Site

9.5.11. Value is assessed as medium as views from these routes inform part of the experience. Susceptibility is assessed as high as people travelling along the PRoW are focused on the landscape with the view contributing to the amenity experience. A high sensitivity is therefore judged.

### Transient users of Christ's Hospital Station and car park

Value is assessed as medium as the view from the Station car park within proximity to the Site informs part of the experience. Susceptibility is assessed as medium as people are at a location where there is some opportunity to appreciate the view and where the view contributes in part to the amenity experience. A medium sensitivity is therefore judged.

### Transient users of Two Mile Ash Road

Value is assessed as medium as the view from along the route informs part of the experience. Susceptibility is assessed as medium as people are at a location where there is some opportunity to

appreciate the view and where the view contributes in part to the amenity experience. A medium sensitivity is therefore judged.

**Transient users of Worthing Road, Chessall Avenue and the roundabout junction to the A24 from Worthing Road**

9.5.12. Value is assessed as medium as the view from along the route informs part of the experience. Susceptibility is assessed as medium as people are at a location where there is some opportunity to appreciate the view and where the view contributes in part to the amenity experience. A medium sensitivity is therefore judged.

**Transient users of Marlpost Road and Church Lane**

9.5.13. Value is assessed as medium as the view from along the route informs part of the experience. Susceptibility is assessed as medium as people are at a location where there is some opportunity to appreciate the view and where the view contributes in part to the amenity experience. A medium sensitivity is therefore judged.

**Residents immediately adjacent to the Site**

9.5.14. Value is assessed as low, given that views are predominantly from rear elevations and gardens of properties at Worthing Road, Chessall Avenue, Fletchers, Allendale, New Road, Two Mile Ash and Church Lane. Susceptibility is assessed as medium as people are at a location where there is some opportunity to appreciate the view and where the view contributes in part to the amenity experience. A medium sensitivity is therefore judged.

**Residents of Grade II* Listed Great House Farmhouse**

9.5.15. Value is assessed as high as the view is from a Grade II Listed Building, whereby the orientation of the elevation is orientated to take advantage of the view. Susceptibility is assessed as medium as people are at a location where there is some opportunity to appreciate the view and where the view contributes in part to the amenity experience. A high sensitivity is therefore judged.

**Residents of Grade II Listed College Farmhouse**

9.5.16. Value is assessed as high as the view is from a Grade II Listed Building, whereby the orientation of the elevation is orientated to take advantage of the view. Susceptibility is assessed as medium as people are at a location where there is some opportunity to appreciate the view and where the view contributes in part to the amenity experience. A high sensitivity is therefore judged.

**Those at Grade II Listed Holy Innocents Church and Christ's Hospital School**

9.5.17. Value is assessed as high as the view is from a Grade II Listed Building, whereby the orientation of the elevation is orientated to take advantage of the view. Susceptibility is assessed as medium as people are at a location where there is some opportunity to appreciate the view and where the view contributes in part to the amenity experience. A high sensitivity is therefore judged.

## 9.6. ASSESSMENT OF POTENTIAL EFFECTS, MITIGATION AND RESIDUAL EFFECTS

### INHERENT DESIGN MITIGATION

9.6.1. The attributes that are included within the design of the Proposed Development and which are key elements of embedded mitigation which have been considered in the assessment of landscape and visual effects. Embedded, or primary, mitigation is defined in GLVIA3 as measures that are: *"developed through the iterative design process, which have become integrated or embedded into the project design".* GLVIA3 also states that embedded/primary mitigation measures *"should ideally be included in the project description / specification"* as opposed to further, or secondary / further mitigation measures.

9.6.2. For the reasons set out above in best practice guidelines, embedded mitigation measures have been listed below in advance of the assessment of effects. Any further mitigation considered in the assessment of residual effects is described later under the heading of 'Further Mitigation Measures'.

9.6.3. The design of the Proposed Development has evolved as part of an iterative process and has been informed by the findings of the baseline landscape and visual amenity conditions. Consideration of the baseline conditions has informed the proposed layout within the Site, the scale and massing of introduced built elements, and the extent and arrangement of different landscape treatments. The design of the Proposed Development has also been informed by extensive co-ordination with a range of technical consultants appointed by the Applicant, including the heritage consultant, masterplanner, highways and drainage engineers and ecologist.

9.6.4. The embedded mitigation of relevance to landscape and visual matters is summarised as follows:

- In the absence of a soil strategy and cut and fill calculations, it is considered at this outline stage that the integrity of the existing soil will remain, with the balance of material retained on Site. Whilst localised amendments will occur to form the development platforms, attenuation basins, overall, the topographic profile across the Site will be retained. Soil and material re-use and reduction or management is encouraged where possible where landscaping is undertaken.
- Enhancement of vegetation and tree canopy connection, to set the Proposed Development into an existing enhanced treed structure.
- Creation of a strategic open space network, in excess of policy requirements.
- Retention and enhancement of existing vegetation along Site boundaries providing physical and visual enclosure in the long term.
- Retention of vegetation, provision of open space and enhancement of green infrastructure network within the south and west of the Site to assimilate with the rural landscape beyond to the south and west and minimise the impact upon the landscape setting of Listed Buildings within proximity – including Great House Farmhouse.
- Development within proximity to Ancient Woodland is set back with suitable buffers of a minimum depth of 15m.
- The alignments of PRoW that cross the Site are retained and set within green corridors and incorporated into the proposed open space network where possible.
- Following the preparation of digital ZTV mapping and testing in the field via visual assessment, a sensitive approach to the height, scale and location of development has been adopted, to ensure assimilation into the receiving landscape, when viewed from sensitive receptors.

- Residential development limited to up to three storeys is situated centrally, close to the existing settlement edge of Southwater to the east, and away from the more sensitive rural western edge of the Site.
- Residential development up to two storeys is situated within proximity to Listed Buildings within the southeastern part of the Site and is set back behind existing and supplementary vegetation.

## CONSTRUCTION PHASE

9.6.5. The additional mitigation at construction phase, of relevance to landscape and visual matters is the Construction Environmental Management Plan (CEMP), which will be produced and implemented. This includes the following measures specified for the protection of landscape character and visual amenity, as follows:

- Defined works areas will be clearly marked, and no construction works, storage of materials or workers would be allowed outside these areas, particularly in areas of importance in terms of landscape, visual amenity or ecology.
- Works where possible will be restricted to daylight hours to avoid the use of external lighting which would be required with night-time works to prevent unnecessary disturbance to nocturnal and crepuscular species such as certain invertebrates, bats and birds.
- No herbicide would be used within or adjacent to areas of importance in terms of landscape, visual amenity or ecology.
- Seasonal constraints will be considered on matters such as vegetation clearance only allowed outside the breeding bird season, hibernation season, etc.
- Protection will be provided to create physical separation between construction operations and ecologically sensitive areas. This would include temporary fencing where necessary.
- All areas used for temporary construction operations would be subject to complete restoration to their former condition with appropriate aftercare procedures.
- Security lighting would be minimised, particularly in the vicinity of existing residential properties on the edge of the Site and adjacent to new residential properties as each phase is occupied.

**Table 9-3 – Assessment of potential effects, additional mitigation, residual effects and monitoring during construction**

| | |
|---|---|
| **Receptor** | **Natural England NCA 12 Low Weald** |
| **Potential effects** | There would be limited physical effects on the character area outside of the Site, with the change from predominantly agricultural land to a construction site, affecting a very small part of NCA 12 Low Weald.<br>Magnitude of change is therefore predicted to be negligible given the compact scale and short duration. Considering negligible magnitude of change and the medium sensitivity as set out above at section 9.5, a **negligible** (**not significant**) level of effect is judged, with the nature of effect being adverse. |
| **Additional mitigation** | CEMP, secured through condition, implemented by appointed contractor and overseen by developer and LPA. |
| **Residual effects and monitoring** | The sensitivity is medium, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a direct, temporary, medium-term **negligible** (**not significant**) **adverse** residual effect following the implementation of mitigation measures. |
| **Receptor** | **West Sussex Landscape Character Area H1 Central Low Weald** |

| Receptor | Natural England NCA 12 Low Weald |
|---|---|
| Potential effects | There would be limited physical effects on the character area outside of the immediate Site area. Improvements to PRoW, will be provided off-site, at the latter phases of the construction phase. Thus, the off-site proposals will have a limited effect on the integrity of the overall receptor. The change on Site from predominantly agricultural land to a construction site, and will affect only a compact part of H1 Central Low Weald and with the recommendations set out in the LCA, incorporated into the embedded mitigation strategy, such as retention of and supplementation of existing vegetation.<br><br>Magnitude of change is therefore predicted to be low given the modest scale and (overall) short duration (albeit a permanent change in the composition of trees at this stage). Considering low magnitude of change and the medium sensitivity as set out above at Section 9.5, a **minor (not significant)** level of effect is judged, with the nature of effect being adverse. |
| Additional mitigation | CEMP, secured through condition, implemented by appointed contractor and overseen by developer and LPA. |
| Residual effects and monitoring | The sensitivity is medium, and the magnitude of change, following mitigation, is low. Therefore, there is likely to be **minor (not significant) adverse** residual effect following the implementation of mitigation measures. |

| Receptor | Horsham District Landscape Character Area H1 Southwater and Christ's Hospital Farmlands |
|---|---|
| Potential effects | There would be limited physical effects on the character area outside of the immediate Site area. Improvements to PRoW, will be provided off-site, at the latter phases of the construction phase. Thus, the off-site proposals will have a limited effect on the integrity of the overall receptor. The change on Site from predominantly agricultural land to a construction site and will affect only a compact part of H1 Southwater and Christ's Hospital Farmlands and with many of the recommendations set out in the LCA, incorporated into the embedded mitigation strategy, such as retention of and supplementation of existing vegetation.<br><br>Magnitude of change is therefore predicted to be low given the modest scale and (overall) short duration (albeit a permanent change in the composition of trees at this stage). Considering low magnitude of change and the medium sensitivity as set out above at Section 9.5, a **minor (significant)** level of effect is judged, with the nature of effect being adverse. |
| Additional mitigation | CEMP, secured through condition, implemented by appointed contractor and overseen by developer and LPA. |
| Residual effects and monitoring | The sensitivity is medium, and the magnitude of change, following mitigation, is low. Therefore, there is likely to be a **minor (not significant) adverse** residual effect following the implementation of mitigation measures. |

| Receptor | Overall Site Character |
|---|---|
| Potential effects | The landscape character of the Site is influenced by both the rural and settlement edge setting. Whilst the character would change from agricultural fields with hedgerows, trees and woodland, to a construction site (within the same vegetated setting) - with associated access, haulage routes, construction compounds and increased activity; the pertinent landscape components would be retained where possible and protected during construction using temporary fencing to separate construction operations and ecologically sensitive areas. |

| Receptor | Overall Site Character |
|---|---|
| | Magnitude of change is therefore predicted to be medium, given the sizeable scale of the construction works and short duration. Considering medium magnitude of change and the high sensitivity as set out above at Section 9.5, a **major (significant)** level of effect is judged, with the nature of effect being adverse. |
| **Additional mitigation** | CEMP, secured through condition, implemented by appointed contractor and overseen by developer and LPA. |
| **Residual effects and monitoring** | The sensitivity is medium, and the magnitude of change, following mitigation, is medium. Therefore, there is likely to be a **major (significant) adverse** residual effect following the implementation of mitigation measures. |

| Receptor | Site Landform |
|---|---|
| **Potential effects** | Whilst overall, the Site's topographic profile would remain, the low-lying landform would be affected by localised changes to facilitate development platforms and drainage features. Magnitude of change is therefore predicted to be low, given the compact scale of the likely changes to landform and short duration.<br><br>Considering low magnitude of change and the medium sensitivity as set out above at Section 9.5, a **moderate (significant)** level of effect is judged, with the nature of effect being adverse. |
| **Additional mitigation** | CEMP, secured through condition, implemented by appointed contractor and overseen by developer and LPA. |
| **Residual effects and monitoring** | The sensitivity is medium, and the magnitude of change, following mitigation, is low. Therefore, there is likely to be **moderate (significant) adverse** residual effect following the implementation of mitigation measures. |

| Receptor | Site Land Use |
|---|---|
| **Potential effects** | The Site's primary land use would change from agricultural to a temporary construction site (albeit seeing the commencement of a permanent change).<br><br>Magnitude of change is therefore predicted to be medium, given the sizeable scale of the change of land use to construction works and short duration. Considering medium magnitude of change and the high sensitivity as set out above at Section 9.5, a **major (significant) level** of effect is judged, with the nature of effect being adverse. |
| **Additional mitigation** | CEMP, secured through condition, implemented by appointed contractor and overseen by developer and LPA. |
| **Residual effects and monitoring** | The sensitivity is high, and the magnitude of change, following mitigation, is medium. Therefore, there is likely to be a **major (significant) adverse** residual effect following the implementation of mitigation measures. |

| Receptor | Site Vegetation |
|---|---|
| **Potential effects** | The woodland, trees and hedgerows would be retained where possible and protected during the construction process, with vegetation loss limited to locations necessary to facilitate access and requirements for travel. The Arboricultural Impact Assessment **ref: 9.12 13** confirms the following removals:<br><br>• 0no. Category A trees and hedgerow |

| Receptor | Site Vegetation |
|---|---|
| | • 20no. Category B tree and hedgerow (including mixed group)<br>• 4no. Category C tree and hedgerow (including mixed group)<br>Furthermore, and specifically, regarding the vegetation of highest value, the green infrastructure strategy retains and protects the vegetation of highest value – the identified Ancient Woodland, and veteran trees. Proposed vegetation will supplement that existing vegetation and be planted at the latter phases of the construction period, relative to each phase.<br>Magnitude of change is therefore predicted to be low, given the permanence and the changes to a small proportion of the vegetation within the centre and east of the Site, which will be perceived within a localised geographic area. Considering the low magnitude of change and medium sensitivity as set out above at Section 9.5, a **moderate (significant)** level of effect is judged, with the nature of effect being adverse. |
| **Additional mitigation** | CEMP, secured through condition, implemented by appointed contractor and overseen by developer and LPA. |
| **Residual effects and monitoring** | The sensitivity is medium, and the magnitude of change, following mitigation, is low. Therefore, there is likely to be a **moderate (significant) adverse** residual effect following the implementation of mitigation measures. |

| Receptor | Site Function |
|---|---|
| **Potential effects** | The current agricultural function of the Site that inform a small part of the wider rural setting to the Grade II* Listed Great House Farmhouse, and Grade II Listed College Farmhouse, will change to that of a construction site, set within the retained existing vegetation and the adjacent settlement edge. Excavation to facilitate new homes and attenuation basins, plus the planting of new trees and vegetation will occur in proximity to Great House Farmhouse, during the construction period, whilst the south and west of the Site will be retained as predominantly open, with tree planting, as the first phases to create informal open space with a rural character associated with the countryside to the south and west.<br>Magnitude of change for the Site's function as part of the setting to the Listed Buildings, is predicted to be low, given the short duration and the small scale. Considering the low magnitude of change and low-medium sensitivity as set out above at Section 9.5, a **minor - moderate (significant)** level of effect is judged, with the nature of effect being adverse. |
| **Additional mitigation** | CEMP, secured through condition, implemented by appointed contractor and overseen by developer and LPA. |
| **Residual effects and monitoring** | The sensitivity is low, and the magnitude of change, following mitigation, is low-medium. Therefore, there is likely to be a direct, temporary, medium-term **minor - moderate (significant) adverse** residual effect following the implementation of mitigation measures. |

| | |
|---|---|
| **Receptor** | **Walkers within proximity using bridleways SOW-1662 and SOW-3568 (the Downs Link), footpaths SOW-1660, SOW-1658, SOW-1656, SOW-1655 and SOW- 1628-3 through the Car Park Site and main Site. Refer to Appendix 9.2, Figure 2.7 and photograph locations A, G, H, I, J, L, M, N, O, P1-3, Q, T, and Appendix 9.4, Figure 4.2 – viewpoints (VPs) 2, 6, 10, 15, 17, 20, 22.** |
| **Potential effects** | The character of the open and partial views across the Site would change from agricultural land to that of a construction site and associated activities. Overall, magnitude of change is therefore predicted to be medium, as there would be a distinct change in the composition of the views from the route, nearby and occupying a wide extent of the view. Furthermore, the change is temporary, only perceived for a short period of time. Considering the medium magnitude of change and high sensitivity as set out above at Section 9.5, overall, a **major (significant)** level of effect is judged, with the nature of effect being adverse. |
| **Additional mitigation** | CEMP, secured through condition, implemented by appointed contractor and overseen by developer and LPA. |
| **Residual effects and monitoring** | The sensitivity is high, and the magnitude of change, following mitigation, is medium. Therefore, there is likely to be a **major (significant) adverse** residual effect following the implementation of mitigation measures. |

| | |
|---|---|
| **Receptor** | **Walkers within the local landscape from PRoW ITC-1651 to the west of the Site. Refer to Appendix 9.4, Figure 4.2 and VP 24.** |
| **Potential effects** | Whilst the character of the views towards the Site would change from countryside to that including glimpses of a construction site and associated activities, the character of much of the routes would remain unchanged, because of the retained woodland, trees and hedgerows at the western boundaries, as well as the retention of woodland within the Site.<br><br>Overall, magnitude of change is therefore predicted to be negligible, as there would be a perceptible change in the composition of some of the view from the route, occupying a very discrete extent of the view. Furthermore, the change is temporary, only perceived for a short period of time. Considering the negligible magnitude of change and high sensitivity as set out above at Section 9.5, a **minor (not significant)** level of effect is judged for receptors on a limited extent of the identified footpaths, with the nature of effect being adverse. |
| **Additional mitigation** | CEMP, secured through condition, implemented by appointed contractor and overseen by developer and LPA. |
| **Residual effects and monitoring** | The sensitivity is high, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a **minor (not significant) adverse** residual effect following the implementation of mitigation measures. |

| | |
|---|---|
| **Receptor** | **Transient users of Christ's Hospital Station and car park (if development is required). Refer to Appendix 9.4, Figure 4.2 and VP 1.** |
| **Potential effects** | The character of the open views across the Site would change from agricultural land to that of a construction site and associated activities. Overall, magnitude of change is therefore predicted to be medium, as there would be a distinct change in the composition of the views from the route, nearby and occupying a wide extent of the view. Furthermore, the change is temporary, only perceived for a short period of time. Considering the medium magnitude of change and medium sensitivity as set out above at Section 9.5, a **moderate (significant)** level of effect is judged, with the nature of effect being adverse. |

| | |
|---|---|
| **Receptor** | **Transient users of Christ's Hospital Station and car park (if development is required). Refer to Appendix 9.4, Figure 4.2 and VP 1.** |
| **Additional mitigation** | CEMP, secured through condition, implemented by appointed contractor and overseen by developer and LPA. |
| **Residual effects and monitoring** | The sensitivity is medium, and the magnitude of change, following mitigation, is medium. Therefore, there is likely to be a **moderate (significant) adverse** residual effect following the implementation of mitigation measures. |

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| **Receptor** | **Transient users of Two Mile Ash Road. Refer to Appendix 9.4, Figure 4.2 and VPs 4, 5, 6, 8, 9 and 10.** |
| **Potential effects** | The limited tree and hedgerow removal necessary to facilitate vehicular and pedestrian access would be perceived, at close range, from Two Mile Ash Road. Construction activity and movement would be perceived from the open boundary of the northern parcel and the locality of the hedgerow removals within the south. The character of the open and partial views from these locations would change from rural fields and hedgerows to that of a construction site, framed by retained mature trees and hedgerows.<br><br>Magnitude of change is therefore predicted to be medium, as there would be a sizeable change in the character and amenity of the view, close to the viewer and occupying a wide extent of the view from a transient receptor, for a temporary / short period of time (albeit commencing the start of a permanent change). Considering the medium magnitude of change and medium sensitivity as set out above at Section 9.5, a **moderate (significant)** level of effect is judged, with the nature of effect being adverse. |
| **Additional mitigation** | CEMP, secured through condition, implemented by appointed contractor and overseen by developer and LPA. |
| **Residual effects and monitoring** | The sensitivity is medium, and the magnitude of change, following mitigation, is medium. Therefore, there is likely to be a **moderate (significant) adverse** residual effect following the implementation of mitigation measures. |

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|---|---|
| **Receptor** | **Transient users of Worthing Road, Chessall Avenue and the roundabout junction to the A24 from Worthing Road. Refer to Appendix 9.4, Figure 4.2 and VPs 18 – 23.** |
| **Potential effects** | The tree and hedgerow removal necessary to facilitate vehicular access into the Site would be perceived, at close range, from those at Worthing Road, Chessall Avenue and the roundabout junction with the A24. Construction activity and movement would be perceived from these locations. The character of the filtered views across the Site would change from agricultural land to that of a construction site.<br><br>Magnitude of change is therefore predicted to be medium, as there would be a distinct change in the composition of the view, close to the viewer and occupying a wide extent of the view, for a temporary / short period of time. Considering the medium magnitude of change and medium sensitivity as set out above at Section 9.5, a **moderate (significant)** level of effect is judged, with the nature of effect being adverse. |
| **Additional mitigation** | CEMP, secured through condition, implemented by appointed contractor and overseen by developer and LPA. |
| **Residual effects and monitoring** | The sensitivity is medium, and the magnitude of change, following mitigation, is medium. Therefore, there is likely to be a **moderate (significant) adverse** residual effect following the implementation of mitigation measures. |

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|---|---|
| **Receptor** | **Transient users of Marlpost Road and Church Lane. Refer to Appendix 9.4, Figure 4.2 and VPs 11 and 14.** |
| **Potential effects** | The character of the rural views with glimpsed views of the Site's mature trees and woodland would predominantly remain intact. Glimpses of the construction site and associated activities would be experienced, set behind the existing retained framework of trees and woodland.<br><br>Overall, magnitude of change is therefore predicted to be negligible, as there would be a compact change in the composition of the views from this receptor. Furthermore, the change is temporary, only perceived for a short period of time. Considering the negligible magnitude of change and medium sensitivity as set out above at Section 9.5, a **negligible (not significant)** level of effect is judged, with the nature of effect being adverse. |
| **Additional mitigation** | CEMP, secured through condition, implemented by appointed contractor and overseen by developer and LPA. |
| **Residual effects and monitoring** | The sensitivity is medium, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be **negligible (not significant) adverse** residual effect following the implementation of mitigation measures. |

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|---|---|
| **Receptor** | **Residents immediately adjacent to the Site. Refer to Appendix 9.2, Figure 2.7 and photograph locations A, B, H, I, J, K, M, P1 – P3, R, S, T, and Appendix 9.4, Figure 4.2 VPs 8, 9, 10, 14, 17, 18, 19, 20, 21, 22.** |
| **Potential effects** | The character of the views towards the Site from residential properties in proximity, would change from predominantly filtered views of agricultural land to filtered views of a construction site. A limited number of residents at Two Mile Ash Road and within proximity to Worthing Road would additionally perceive the tree and hedgerow removals at the western and eastern boundaries, to facilitate the vehicular and pedestrian accesses. Magnitude of change is therefore predicted to be medium, as there would be a distinct to noticeable change in the character and amenity of the view, close to the viewer and occupying a wide extent of the view, for a temporary / short period of time (albeit commencing the start of a permanent change).<br><br>Considering the medium magnitude of change and medium sensitivity as set out above at Section 9.5, a **moderate (significant)** level of effect is judged, with the nature of effect being adverse. |
| **Additional mitigation** | CEMP, secured through condition, implemented by appointed contractor and overseen by developer and LPA. |
| **Residual effects and monitoring** | The sensitivity is medium, and the magnitude of change, following mitigation, is medium. Therefore, there is likely to be **moderate (significant) adverse** residual effect following the implementation of mitigation measures. |

| | |
|---|---|
| **Receptor** | **Residents of Grade II* Listed Great House Farmhouse. Refer to Appendix 9.2, Figure 2.7 and photograph location O.** |
| **Potential effects** | The character of the views towards the Site from Great House Farmhouse would change from open views of agricultural land to open and partial views of a construction site. Magnitude of change is therefore predicted to be medium, as there would be a noticeable change in the composition of the view from some of the property, for a temporary / short period of time (albeit commencing the start of a permanent change). |

| | |
|---|---|
| **Receptor** | **Residents of Grade II* Listed Great House Farmhouse. Refer to Appendix 9.2, Figure 2.7 and photograph location O.** |
| | Considering the medium magnitude of change and high sensitivity as set out above at Section 9.5, a **major (significant)** level of effect is judged, with the nature of effect being adverse. |
| **Additional mitigation** | CEMP, secured through condition, implemented by appointed contractor and overseen by developer and LPA. |
| **Residual effects and monitoring** | The sensitivity is high, and the magnitude of change, following mitigation, is medium. Therefore, there is likely to be **major (significant) adverse** residual effect following the implementation of mitigation measures. |

| | |
|---|---|
| **Receptor** | **Residents of Grade II Listed College Farmhouse. Refer to Appendix 9.4, Figure 4.2 VPs 16.** |
| **Potential effects** | The character of the views towards the Site from College Farmhouse would change from filtered views of agricultural land to filtered views of a construction site, set back behind retained green infrastructure. Overall, magnitude of change is therefore predicted to be negligible, as there would be a compact change in the composition of the views from this receptor. Furthermore, the change is temporary, only perceived for a short period of time.<br><br>Considering the negligible magnitude of change and high sensitivity as set out above at Section 9.5, a **minor (not significant)** level of effect is judged, with the nature of effect being adverse. |
| **Additional mitigation** | CEMP, secured through condition, implemented by appointed contractor and overseen by developer and LPA. |
| **Residual effects and monitoring** | The sensitivity is high, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be **minor (not significant) adverse** residual effect following the implementation of mitigation measures. |

| | |
|---|---|
| **Receptor** | **Those at Grade II Listed Holy Innocents Church and Christ's Hospital School. Refer to Appendix 9.4, Figure 4.2 VPs 7 and 14.** |
| **Potential effects** | The character of the views towards the Site from Holy Innocents Church and Christ's Hospital School would change from filtered views of agricultural land to filtered views of a construction site, set back behind retained green infrastructure. Overall, magnitude of change is therefore predicted to be negligible, as there would be a compact change in the composition of the views from this receptor. Furthermore, the change is temporary, only perceived for a short period of time.<br><br>Considering the negligible magnitude of change and high sensitivity as set out above at Section 9.5, a **minor (not significant)** level of effect is judged, with the nature of effect being adverse. |
| **Additional mitigation** | CEMP, secured through condition, implemented by appointed contractor and overseen by developer and LPA. |
| **Residual effects and monitoring** | The sensitivity is high, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be **minor (not significant) adverse** residual effect following the implementation of mitigation measures. |

## OPERATIONAL PHASE

9.6.6. The additional mitigation at operational phase, of relevance to landscape and visual matters is the Landscape and Environmental Management Plan (LEMP), which will be prepared to ensure the long-term maintenance and management of the existing vegetation to be retained and the successful establishment of the proposed planting, along with maintenance of the high-quality character of the public realm. The LEMP will be secured by planning condition.

9.6.7. The 2017 EIA Regulations require the monitoring of significant environmental effects. The implementation of the green infrastructure for the Site would be monitored as part of the wider environmental monitoring of the proposed development and will be the subject of stringent planning conditions. Monitoring, as set out within the LEMP, would consider the long-term maintenance and management of the existing vegetation to be retained, along with the successful establishment of the proposed planting. Monitoring would comprise the regular, long-term surveillance of the key landscape elements, to ensure early recognition, assessment, and prediction of changes, so that measures, such as replacement planting of failed plant stock and changes to management regimes can be implemented, with the local authority being able to enforce all such measures under planning conditions.

**Table 9-4 – Assessment of potential effects, additional mitigation, residual effects and monitoring during operation**

| **Receptor** | **Natural England NCA 12 Low Weald** |
|---|---|
| **Potential effects** | There would be limited physical effects on the character area outside of the Site, with the change from predominantly agricultural land to a new neighbourhood and open space, affecting a very small part of NCA 12 Low Weald.<br><br>Magnitude of change is therefore predicted to be negligible given the compact scale and whilst the duration will be long, the characteristics pertinent to the NCA are retained where possible.<br><br>Considering negligible magnitude of change and the medium sensitivity, a **minor (not significant)** level of effect is judged at years 1 and 15, with the nature of effect being adverse. |
| **Additional mitigation** | LEMP, secured through condition, implemented by appointed management company and monitored by the LPA. |
| **Residual effects and monitoring** | The sensitivity is medium, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a **minor** (**not significant**) **adverse** residual effect following the implementation of mitigation measures. |

| **Receptor** | **West Sussex Landscape Character Area H1 Central Low Weald** |
|---|---|
| **Potential effects** | There would be limited physical effects on the character area outside of the immediate Site area. Improvements to PRoW, will be provided off-site, at the latter phases of the construction phase. Thus, the off-site proposals will have a limited effect on the integrity of the overall receptor.<br><br>The change on Site from predominantly agricultural land to new neighbourhoods and open space, will affect only a compact part of H1 Central Low Weald and with many of the recommendations set out in the LCA, incorporated into the embedded mitigation strategy, such as retention of and supplementation of existing vegetation, plus incorporation of public open space in-excess of policy requirements and extensive |

| Receptor | West Sussex Landscape Character Area H1 Central Low Weald |
|---|---|
| | network of combined green and blue infrastructure within and around the proposed neighbourhoods.<br><br>Magnitude of change is therefore predicted to be low - negligible, given the change to a compact proportion of the LCA and long duration. Considering low – negligible magnitude of change and the medium sensitivity, a **minor (not significant)** level of effect is judged at year 1 and 15, with the nature of effect being adverse. |
| **Additional mitigation** | LEMP, secured through condition, implemented by appointed management company and monitored by the LPA. |
| **Residual effects and monitoring** | The sensitivity is medium, and the magnitude of change, following mitigation, is low – negligible. Therefore, there is likely to be **minor (not significant) adverse** residual effect following the implementation of mitigation measures. |

| Receptor | Horsham District Landscape Character Area H1 Southwater and Christ's Hospital Farmlands |
|---|---|
| **Potential effects** | There would be limited physical effects on the character area outside of the immediate Site area. Improvements to PRoW, will be provided off-site, at the latter phases of the construction phase. Thus, the off-site proposals will have a limited effect on the integrity of the overall receptor.<br><br>The change on Site from predominantly agricultural land to new neighbourhoods and open space, and will affect only a compact part of H1 Southwater and Christ's Hospital Farmlands and with many of the recommendations set out in the LCA, incorporated into the embedded mitigation strategy, such as retention of and supplementation of existing vegetation, plus incorporation of public open space in-excess of policy requirements and extensive network of combined green and blue infrastructure within and around the proposed neighbourhoods.<br><br>Magnitude of change is therefore predicted to be low - negligible, given the change to a compact proportion of the LCA and long duration. Considering low – negligible magnitude of change and the medium sensitivity, a minor (not significant) level of effect is judged at year 1 and 15, with the nature of effect being adverse. |
| **Additional mitigation** | LEMP, secured through condition, implemented by appointed management company and monitored by the LPA. |
| **Residual effects and monitoring** | The sensitivity is medium, and the magnitude of change, following mitigation, is low – negligible. Therefore, there is likely to be **minor (not significant) adverse** residual effect following the implementation of mitigation measures. |

| Receptor | Overall Site Character |
|---|---|
| **Potential effects** | The submitted parameter plans are informed by the Site's village edge setting and the embedded mitigation strategy as set out at section 9.5. Open space and green infrastructure is proposed within the west, south and southeast of the Site, together with vehicular and pedestrian accesses from Two Mile Ash Road and Worthing Road to the west and east. The proposed neighbourhood centre is situated within proximity to the proposed secondary and primary schools, whilst being easily accessible from Worthing Road and the wider village of Southwater. The western and southern fields, plus those to the immediate east and south of Great House Farmhouse are retained as predominantly open in character, with land use changing to recreation. The retention and enhancement of landscape features would contribute positively to the landscape character of the Site, tempering the change in character to a new place, with associated |

| Receptor | Overall Site Character |
|---|---|
| | increase in people and vehicle movements. The proposed maximum building heights parameter is additionally cognisant of the adjacent settlement, with tallest elements predominantly set back from the western and southern edges of the Site, and set within the context of existing woodland, adjacent proposed open space, as consistent with the receiving landscape character. Lighting is anticipated along main pedestrian and cycle routes through the open space and residential parcels. This is to be low-level and directional to limit light spill.<br><br>Magnitude of change is therefore judged to be medium at year 1, given the modest scale of the Proposed Development and long duration. Considering medium magnitude of change and the high sensitivity, a **major (significant)** level of effect is judged at year 1, with the nature of effect being adverse.<br><br>By year 15, the maturation of the existing and substantial proposed green infrastructure is judged to have some effect on the integrity of the overall character of the Site. This, combined with the overprovision of public open space quantum has informed an 'on balance' judgement of **moderate (significant)** level of effect, with the nature of effect remaining adverse. |
| **Additional mitigation** | LEMP, secured through condition, implemented by appointed management company and monitored by the LPA. |
| **Residual effects and monitoring** | The sensitivity is high, and the magnitude of change, following mitigation, is low. Therefore, there is likely to be a **moderate (significant) adverse** residual effect following the implementation of mitigation measures. |

| Receptor | Site Landform |
|---|---|
| **Potential effects** | No further substantial changes are anticipated during the operational phase and as such, as set out for the construction phase, and considering low magnitude of change and the medium sensitivity, a **moderate (significant)** level of effect is judged, with the nature of effect being adverse. |
| **Additional mitigation** | n/a |
| **Residual effects and monitoring** | Residual effects as such are likely to be **moderate (significant) adverse.** |

| Receptor | Site Land Use |
|---|---|
| **Potential effects** | The land use of the Site would fundamentally change from that of predominantly agricultural to new neighbourhoods, including new road, homes, with associated open space and green infrastructure. The proposals substantially exceed the policy requirement for public open space – with a substantial **overprovision of 47ha**. Open space comprises allotments, amenity green space, natural green space, park and recreation grounds and an extensive play strategy with on-site Neighbourhood Equipped Area for Play (NEAP), network of new pedestrian and cycle routes which connect with the existing retained PRoW (on site).<br><br>Magnitude of change is therefore judged to be high, given the overall change to land use, but with consideration that the change will only be perceived within a localised geographic area and considering the long duration. Considering high magnitude of change and the high sensitivity, a **major (significant)** level of effect is judged at year 1 and year 15, with the nature of effect being adverse (overall). |

| Receptor | Site Land Use |
|---|---|
| Additional mitigation | LEMP, secured through condition, implemented by appointed management company and monitored by the LPA. |
| Residual effects and monitoring | The sensitivity is high, and the magnitude of change, following mitigation, is high. Therefore, there is likely to be a **major (significant) adverse** residual effect following the implementation of mitigation measures. |

| Receptor | Site Vegetation |
|---|---|
| Potential effects | The embedded mitigation strategy retains and supplements the existing vegetation network within the Site where possible, including the retention of the trees of highest value, and allows for replacement planting for those limited tree losses, necessary to facilitate safe access. The proposals allow for the extensive new planting of trees, hedgerows, woodland edge habitat, and wildflower – as appropriate to the receiving landscape and recommended within published guidelines, and allowing for connectivity with the wider network of green infrastructure.<br><br>Proposals will incorporate approximately c.1,500 new trees. The tree planting strategy is based on the principle of 'right-tree, right-place', and seeks to increase the overall canopy cover of the Site and ensure compatibility with the proposed setting. The planting scheme will be integrated with the drainage strategy and reinforce the green corridors created by retained trees, hedgerows, and secondary woodland. Ancient Woodland buffers will be converted to a sylvan assemblage / 'ecotones' intended to discourage public access to the woodland beyond.<br><br>The proposed distribution of new trees is based on the following principles: large/outlying parkland tree species to provide focal points within the landscape and provide continuity with those mature outliers already present; use of new medium sized trees to supplement and thicket planting to extend the existing boundary tree assemblage; new urban tree planting to deliver urban cooling, visual interest and to help soften and transition the built form within the receiving landscape.<br><br>Reliance on a range of native species and cultivars of varying maturity and structural diversity will ensure a layered and resilient treescape. Connectivity between the trees will be enhanced by the provision of hedge and dense tree planting, which is proposed throughout the scheme to provide enclosure, define space and help contribute to biodiversity.<br><br>Effects at year 1 are judged to be consistent with those identified for the construction phase – a **moderate (significant)** level of effect, with the nature of effect being adverse.<br><br>At year 15, magnitude of change is judged to be medium, given the moderate to sizeable increase in quantum of vegetation resulting in a noticeable change in the integrity of the receptor. Considering also the medium sensitivity, a **moderate (significant)** level of effect is judged at year 15, with the nature of effect being **beneficial**. |
| Additional mitigation | LEMP, secured through condition, implemented by appointed management company and monitored by the LPA. |
| Residual effects and monitoring | The sensitivity is medium, and the magnitude of change, following mitigation, is medium. Therefore, there is likely to be a **moderate (significant) beneficial** residual effect following the implementation of mitigation measures. |

| Receptor | Site Function |
|---|---|
| **Potential effects** | The Site's agricultural land use would change to that of new neighbourhoods. The current agricultural function of the Site that informs the rural setting to the Grade II* Listed Great House Farmhouse will change to that of new neighbourhoods set behind approximately 35m of green infrastructure at the western boundary of the Farmhouse, with proposed homes set back behind proposed open space, by approximately 45m from the western boundary and 80m from the eastern boundary. The Building Heights Parameter demonstrates that those proposed homes within closest proximity to Great House Farmhouse will be limited to 2 storeys.<br><br>The current agricultural function of the Site that informs a small part of the setting to the Grade II Listed College Farmhouse, will change to that of new neighbourhood set behind approximately 80m of green infrastructure, at the eastern boundary and within proximity to College Farmhouse, which is set within a robust framework of trees and hedgerow. The Building Heights Parameter demonstrates that those proposed homes within closest proximity to College Farmhouse will be limited to 2 storeys.<br><br>Magnitude of change for the Site's function as part of the wider setting to the Grade II* Listed Great House Farmhouse and Grade II Listed College Farmhouse, is predicted to be low – medium at year 1, given the change to a compact – moderate proportion of the features that contribute to Site function. Considering low – medium magnitude of change and the low sensitivity, a **moderate - minor level (significant)** of effect is judged at year 1, with the nature of effect being adverse. By year 15, the maturation of the existing and proposed vegetation as part of the green infrastructure and public open space strategy is judged to have some effect on the integrity of the Site function, therefore the overall level of effect will decrease to **minor (not significant),** for the Site's function as part of the wider setting to those Listed buildings within proximity. |
| **Additional mitigation** | LEMP, secured through condition, implemented by appointed management company and monitored by the LPA. |
| **Residual effects and monitoring** | The sensitivity is low, and the magnitude of change, following mitigation, is low. Therefore, there is likely to be a **minor (not significant) adverse** residual effect following the implementation of mitigation measures. |

| Receptor | **Walkers within proximity using bridleways SOW-1662, SOW-3568 (the Downs Link), footpaths SOW-1660, SOW-1658, SOW-1656, SOW-1655 and SOW- 1628-3 through the Car Park Site and main Site. Refer to Appendix 9.2, Figure 2.7 and photograph locations A, G, H, I, J, L, M, N, O, P1-3, Q, T, and Appendix 9.4, Figure 4.2 – viewpoints (VPs) 2, 6, 10, 15, 17, 20, 22.** |
|---|---|
| **Potential effects** | The character of the open views from the PRoW that cross the Site would change from agricultural land to that of new neighbourhoods with schools, homes up to 3 storeys in height, green infrastructure, open space and low-level lighting. Overall, magnitude of change is therefore predicted to be high, as there would be a distinct change in the composition of the views from the routes, albeit for a very short length of the route, with the change being close to the viewer and occupying a wide extent of the view.<br><br>Considering the high magnitude of change and high sensitivity, a **major (significant)** level of effect is judged at year 1, with the nature of effect being adverse. By year 15, the maturation of the existing and proposed green infrastructure is judged to have some effect on the integrity of the overall magnitude of change, therefore the overall level of effect will decrease to **moderate (significant)** with the nature of effect remaining adverse. |
| **Additional mitigation** | LEMP, secured through condition, implemented by appointed management company and monitored by the LPA |

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|---|---|
| **Receptor** | **Walkers within proximity using bridleways SOW-1662, SOW-3568 (the Downs Link), footpaths SOW-1660, SOW-1658, SOW-1656, SOW-1655 and SOW- 1628-3 through the Car Park Site and main Site. Refer to Appendix 9.2, Figure 2.7 and photograph locations A, G, H, I, J, L, M, N, O, P1-3, Q, T, and Appendix 9.4, Figure 4.2 – viewpoints (VPs) 2, 6, 10, 15, 17, 20, 22.** |
| **Residual effects and monitoring** | The sensitivity is high, and the magnitude of change, following mitigation, is medium. Therefore, there is likely to be a **moderate (significant) adverse** residual effect following the implementation of mitigation measures. |

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| **Receptor** | **Walkers within the local landscape from PRoW ITC-1651 to the west of the Site. Refer to Appendix 9.4, Figure 4.2 and VP 24.** |
| **Potential effects** | Whilst the character of the views towards the Site would change from rural settlement fringe to that including glimpses of a new neighbourhood, the character of much of the routes would remain unchanged, because of the retained woodland and hedgerows at the western boundaries, as well as the retention of woodland within the Site.<br><br>Overall, magnitude of change is therefore judged to be negligible, as there would be a perceptible change in the composition of some of the views from the routes but occupying a discrete extent of the view. Furthermore, the duration of the change is permanent and visible for a continuous period. Considering the medium magnitude of change and low sensitivity, a **minor (not significant)** level of effect is judged for receptors at years 1 and 15, on a limited extent of the identified footpaths within proximity to the Site, with the nature of effect being adverse. |
| **Additional mitigation** | LEMP, secured through condition, implemented by appointed management company and monitored by the LPA. |
| **Residual effects and monitoring** | The sensitivity is high, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a **minor (not significant) adverse** residual effect following the implementation of mitigation measures. |

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| **Receptor** | **Transient users of Christ's Hospital Station and car park. Refer to Appendix 9.4, Figure 4.2 and VP 1.** |
| **Potential effects** | New car parking and landscaping would be perceived from this location. The character of the filtered views across the Site would change from agricultural land to that of a new car parking. Magnitude of change is therefore predicted to be medium, as there would be a change in the composition of the view, close to the viewer. Furthermore, the duration of the change is permanent and visible for a continuous period. Considering the medium magnitude of change and medium sensitivity, a **moderate (significant)** level of effect is judged at years 1 and 15, with the nature of effect being adverse. |
| **Additional mitigation** | LEMP, secured through condition, implemented by appointed management company and monitored by the LPA. |
| **Residual effects and monitoring** | The sensitivity is medium, and the magnitude of change, following mitigation, is medium. Therefore, there is likely to be a **moderate (significant) adverse** residual effect following the implementation of mitigation measures. |

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| **Receptor** | **Transient users of Two Mile Ash Road. Refer to Appendix 9.4, Figure 4.2 and VPs 4, 5, 6, 8, 9 and 10.** |
| **Potential effects** | The proposed vehicular and pedestrian junction would be perceived, at close range, from Two Mile Ash Road, with potentially some glimpsed views of proposed homes up to 2 perceived through gaps in intervening vegetation. Proposed homes up to 3 storeys would be perceived, set back behind existing retained hedgerows and trees. The character of the open and partial views from these locations would change from rural fields and hedgerows to that of new homes and school, set back behind existing and proposed green infrastructure.<br><br>Magnitude of change is therefore predicted to be medium within proximity to the new entrance, as there would be a distinct change in the composition of the view, close to the viewer and occupying a wide extent of the view, whilst existing vegetation is retained where possible and the proposed character of the new junction is responsive to the rural setting. Furthermore, the duration of the change is permanent and visible for a continuous period. Considering the medium magnitude of change and medium sensitivity, a moderate (significant) level of effect is judged at year 1, with the nature of effect being adverse.<br><br>By year 15, the maturation of the existing and proposed green infrastructure is judged to have some effect on the integrity of the overall magnitude of change, therefore the overall level of effect will decrease to **minor (not significant)** with the nature of effect remaining adverse. |
| **Additional mitigation** | LEMP, secured through condition, implemented by appointed management company and monitored by the LPA. |
| **Residual effects and monitoring** | The sensitivity is medium, and the magnitude of change, following mitigation, is low - negligible. Therefore, there is likely to be a **minor (not significant) adverse** residual effect following the implementation of mitigation measures. |

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| **Receptor** | **Transient users of Worthing Road, Chessall Avenue and the roundabout junction to the A24 from Worthing Road. Refer to Appendix 9.4, Figure 4.2 and VPs 18 – 23.** |
| **Potential effects** | The new vehicular access into the Site would be perceived, at close range, from Worthing Road, Chessall Avenue and the roundabout junction with the A24. New homes, up to 3 storeys would be perceived from Worthing Road and Chessall Avenue, and employment (up to 2 storeys) would be seen from the roundabout junction to the A24 from Worthing Road. The character of the filtered views across the Site would change from agricultural land to that of a new neighbourhood and employment. Magnitude of change is therefore predicted to be medium, as there would be a change in the composition of the view, at a location where the viewer is not especially focused on the landscape. Furthermore, the duration of the change is permanent and visible for a continuous period. Considering the medium magnitude of change and medium sensitivity, a **moderate (significant)** level of effect is judged at years 1 and 15, with the nature of effect being adverse. |
| **Additional mitigation** | LEMP, secured through condition, implemented by appointed management company and monitored by the LPA. |
| **Residual effects and monitoring** | The sensitivity is medium, and the magnitude of change, following mitigation, is high. Therefore, there is likely to be a **moderate (significant) adverse** residual effect following the implementation of mitigation measures. |

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| **Receptor** | **Transient users of Marlpost Road and Church Lane. Refer to Appendix 9.4, Figure 4.2 and VPs 11 and 14.** |
| **Potential effects** | The character of the rural views with glimpsed views of the Site's mature trees and woodland would predominantly remain intact. Glimpses of the new homes (up to 2 storeys) would be experienced, set behind the existing retained framework of trees and woodland.<br><br>Overall, magnitude of change is therefore predicted to be negligible, as there would be a compact change in the composition of the views from this receptor. Considering the negligible magnitude of change and medium sensitivity, a **negligible (not significant)** level of effect is judged, with the nature of effect being adverse. |
| **Additional mitigation** | LEMP, secured through condition, implemented by appointed management company and monitored by the LPA. |
| **Residual effects and monitoring** | The sensitivity is medium, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be **negligible (not significant) adverse** residual effect following the implementation of mitigation measures. |

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| **Receptor** | **Residents immediately adjacent to the Site. Refer to Appendix 9.2, Figure 2.7 and photograph locations A, B, H, I, J, K, M, P1 – P3, R, S, T, and Appendix 9.4, Figure 4.2 VPs 8, 9, 10, 14, 17, 18, 19, 20, 21, 22.** |
| **Potential effects** | The character of the views towards the Site from residential properties in proximity, would change from predominantly filtered views of agricultural land to filtered views of new neighbourhoods with schools, homes up to 3 storeys with low-level lighting set back behind existing and proposed green infrastructure and open space, set within the wider context of treed skylines. A limited number of residents at Two Mile Ash Road and within proximity to Worthing Road would additionally perceive the new vehicular and pedestrian accesses.<br><br>Magnitude of change is therefore predicted to be high, as there would be a noticeable permanent change in the composition of the view, close to the viewer. Considering the high magnitude of change and medium sensitivity, a **major (significant)** level of effect is judged at year 1, with the nature of effect being adverse.<br><br>By year 15, the maturation of the existing and proposed planting is judged to have some effect on the integrity of the overall magnitude of change, therefore the overall level of effect will decrease to **moderate (significant),** with the nature of effect remaining adverse |
| **Additional mitigation** | LEMP, secured through condition, implemented by appointed management company and monitored by the LPA. |
| **Residual effects and monitoring** | The sensitivity is medium, and the magnitude of change, following mitigation, is medium. Therefore, there is likely to be **moderate (significant) adverse** residual effect following the implementation of mitigation measures. |

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| **Receptor** | **Residents of Grade II* Listed Great House Farmhouse. Refer to Appendix 9.2, Figure 2.7 and photograph location O.** |
| **Potential effects** | The character of the views towards the Site from Great House Farmhouse would change from open views of agricultural land (with glimpsed views of adjacent homes at the existing settlement edge) to open and partial views of new homes, set back and behind existing retained trees and hedgerow plus supplementary planting and proposed open space. Views of new homes as such would be filtered through additional tree planting |

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| **Receptor** | **Residents of Grade II* Listed Great House Farmhouse. Refer to Appendix 9.2, Figure 2.7 and photograph location O.** |
| | and intervening vegetation and set back behind informal open space that is responsive to the rural character and the heritage asset.<br><br>Magnitude of change is therefore predicted to be high, as there would be a noticeable change in the composition of the view from some of the property. Considering the high magnitude of change and high sensitivity, a **major (significant)** level of effect is judged at year 1, with the nature of effect being adverse.<br><br>By year 15, the maturation of the existing and proposed planting is judged to have some effect on the integrity of the overall magnitude of change, therefore the overall level of effect will decrease to **moderate (significant)**, with the nature of effect remaining adverse. |
| **Additional mitigation** | LEMP, secured through condition, implemented by appointed management company and monitored by the LPA. |
| **Residual effects and monitoring** | The sensitivity is high, and the magnitude of change, following mitigation, is medium - low. Therefore, there is likely to be **moderate (significant) adverse** residual effect following the implementation of mitigation measures. |

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| **Receptor** | **Residents of Grade II Listed College Farmhouse. Refer to Appendix 9.4, Figure 4.2 VPs 16.** |
| **Potential effects** | The character of the views towards the Site from College Farmhouse would change from filtered views of agricultural land to filtered views of informal open space and new neighbourhood. Magnitude of change is therefore predicted to be negligible, as there would be a barely perceptible change in the composition of the view, occupying a limited extent of the view.<br><br>Considering the negligible magnitude of change and high sensitivity, a minor **(not significant)** level of effect is judged at years 1 and 15, with the nature of effect being adverse |
| **Additional mitigation** | LEMP, secured through condition, implemented by appointed management company and monitored by the LPA. |
| **Residual effects and monitoring** | The sensitivity is high, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be **minor (not significant)** residual effect following the implementation of mitigation measures. |

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| **Receptor** | **Those at Grade II Listed Holy Innocents Church and Christ's Hospital School. Refer to Appendix 9.4, Figure 4.2 VPs 7 and 14.** |
| **Potential effects** | The character of the views towards the Site from Holy Innocents Church and Christ's Hospital School would change from filtered views of agricultural land to filtered views of new homes, set back behind retained green infrastructure. Overall, magnitude of change is therefore predicted to be negligible, as there would be a compact change in the composition of the views from this receptor.<br><br>Considering the negligible magnitude of change and high sensitivity, a minor **(not significant)** level of effect is judged at years 1 and 15, with the nature of effect being adverse |
| **Additional mitigation** | LEMP, secured through condition, implemented by appointed management company and monitored by the LPA. |

| | |
|---|---|
| **Receptor** | **Those at Grade II Listed Holy Innocents Church and Christ's Hospital School. Refer to Appendix 9.4, Figure 4.2 VPs 7 and 14.** |
| **Residual effects and monitoring** | The sensitivity is high, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be **minor (not significant)** residual effect following the implementation of mitigation measures. |

## CUMULATIVE EFFECTS

9.6.8. The assessment of cumulative landscape and visual effects considers three additional developments alongside the Proposed Development, as summarised below. **Volume 1, Chapter 5 Approach to EIA** sets out more information on the selection of cumulative developments.

- Scheme 1: Consented - Land West of Worthing Road Southwater West Sussex (DC/14/0590). Residential development of up to 540 dwellings and 54 retirement living apartments, associated vehicular, cycle and pedestrian access, drainage and landscape works.
- Scheme 2: Consented - Land to the West of Mill Straight Worthing Road Southwater West Sussex (DC/14/2582) Residential development of up to 193 No. dwellings (including affordable housing) and associated works.
- Scheme 2: Consented - Land East of Turners Close and East and South of Millfield Southwater West Sussex (DC/11/0657). Erection of 131 residential dwellings (38 x 2-bed, 53 x 3-bed and 40 x 4-bed) with associated access, parking, landscaping infrastructure.

9.6.9. The cumulative developments therefore provide:

- Up to 1864 homes;
- Schools and nursery / creche;
- Community uses, employment uses, gypsy and traveller pitches;
- Open space and children's play;
- Strategic landscaping;
- Car parking; and
- SuDS.

## CONSTRUCTION PHASE - LANDSCAPE EFFECTS

9.6.10. At the national level, all Schemes lie within the National Character Area (NCA) 121 Low Weald. This character area is, however, also readily influenced by settlements. The construction phases will see the commencement of change to the appearance of the landscape but will also maintain a balance with the retention and protection of key features (collectively woodland and field boundary hedgerows). The landscape value of this character area is judged to be medium; the susceptibility to the proposed change is judged to be low; and therefore the sensitivity of this receptor is medium. The magnitude of change is predicted to be low on the NCA as a whole, considering the effects of c2000 new homes on green field land, the characteristic features of this NCA and the geographic extent of the Site relative to the extent of the NCA. Effects are therefore predicted to be of **minor adverse (not significant)**, with the nature of effect being adverse.

9.6.11. At county level, all Schemes lie within the West Sussex Landscape Character Area H1 Central Low Weald. The construction phases will see the commencement of change to the appearance of the landscape but will also maintain a balance with the retention and protection of key features. The landscape value of this character area is judged to be medium; the susceptibility to the proposed

change is judged to be medium; and therefore the sensitivity of this receptor is medium. The magnitude of change is predicted to be low on the LCA as a whole, considering the effects of c2000 new homes on green field land and the characteristic features of this LCA. Effects are therefore predicted to be of **minor (not significant)**, with the nature of effect being adverse.

9.6.12. At the local level, the Schemes lie within Horsham District Landscape Character Area H1 Southwater and Christ's Hospital Farmlands and G4 Southwater & Shipley Wooded Farmlands. The construction phases will see the commencement of change to the appearance of the landscape but will also maintain a balance with the retention and protection of key features, as well as incorporate recommendations set out in the LCA. The cumulative change will affect a compact part of H1 and G4. The landscape value of this character area is judged to be medium; the susceptibility to the proposed change is judged to be medium; and therefore the sensitivity of this receptor is medium. The magnitude of change is predicted to be low on the LCA as a whole, considering the effects on the characteristic features of this LCA. Effects are therefore predicted to be of **minor (not significant)** initially, increasing in effect through the continued disturbance of the character area and phasing of the development, with the nature of effect being adverse.

9.6.13. Consistent with the Site, other than effects on landscape character areas as described above, there will be no physical change during the construction phases arising on the range of existing contextual landscape receptors within the study area beyond each of the development sites, namely land use; landform; vegetation; time depth; and function. The significance of effect on these receptors is therefore judged to be **neutral (not significant).**

9.6.14. Collectively, the construction phase will see the commencement of a permanent change to the greenfield land use element and character of each of the Sites. Effects at the Site level are predicted to be on balance **moderate (significant),** with the nature of effects being adverse.

**CONSTRUCTION PHASE - VISUAL EFFECTS**

9.6.15. In terms of in combination effects, in addition to the range of visual receptors identified in the visual assessment for the Proposed Development where effects range from moderate to major adverse, the construction activities associated with Scheme 1 are predicted to be apparent additionally from the locality of viewpoints P2, Q, T, 14,15, 17, 16,18 and 19 (receptors using PRoW the Downs Link (bridleway SOW-3568), and PRoW SOW-1655, SOW-1658, SOW-1656; transient receptors of Church Lane, Worthing Road and the roundabout junction with to Chessall Avenue; residents immediately adjacent to the Site; residents of Grade II Listed College Farmhouse); and from where views of the Proposed Development Site are predicted to be truncated. The effects on this additional visual receptor are judged to range from **major - moderate (significant) adverse** due to the introduction of construction activities and emerging built form, introducing new elements to a predominantly pastoral scene.

9.6.16. Due to intervening vegetation and landform, the construction operations, emerging built form and surface level car park relative to all Schemes would not be apparent from those other visual receptors where views are identified as being truncated (with the exception of viewpoints P2, Q, T, 14,15, 17, 16,18 and 19) within the wider study area and thus therefore the cumulative effects are judged to be **neutral (not significant)** on the remaining visual receptors in the wider area only.

## COMPLETED DEVELOPMENT - LANDSCAPE EFFECTS

9.6.17. In terms of effects on the National Character Area (NCA) 121 Low Weald, the operational phase will result in a change to the appearance of the landscape but as per the construction phase, will also maintain a balance with the retention and protection of key features (collectively woodland and field boundary hedgerows). The landscape value of this character area is judged to be medium; the susceptibility to the proposed change is judged to be low and therefore the sensitivity of this receptor is medium. The magnitude of change is predicted to be low on the NCA as a whole, considering the effects of c2000 new homes on green field land, the characteristic features of this NCA including existing settlements, the geographic extent of the Site relative to the extent of the NCA. Effects are therefore predicted to be of **minor adverse (not significant)**, with the nature of effect being adverse

9.6.18. At the county level, all Schemes lie within the West Sussex Landscape Character Area H1 Central Low Weald. The operational phase will result in a change to the appearance of the landscape, replacing agricultural land with built form and open space, set within a predominantly retained landscape structure of woodland, treed and hedgerows, but will also maintain a balance with the retention and protection of key features where possible. The landscape value of this character area is judged to be medium; the susceptibility to the proposed change is judged to be medium; and therefore the sensitivity of this receptor is medium. The magnitude of change is predicted to be low on the LCA as a whole, considering the effects on the characteristic features of this LCA. Effects are therefore predicted to be of **minor (not significant),** with the nature of effect being adverse.

9.6.19. At the local level, the Schemes lie within Horsham District Landscape Character Area H1 Southwater and Christ's Hospital Farmlands and G4 Southwater & Shipley Wooded Farmlands. The operational phase will result in a change to the appearance of the landscape but will also maintain a balance with the retention and protection of key features where possible, as well as incorporate recommendations set out in the LCA. The cumulative change will affect only a compact part of H1 and G4. The landscape value of this character area is judged to be medium; the susceptibility to the proposed change is judged to be medium; and therefore the sensitivity of this receptor is medium. The magnitude of change is predicted to be medium on the LCA as a whole, considering the effects on the characteristic features of this LCA. Effects are therefore predicted to be **moderate (significant),** with the nature of effect being adverse.

9.6.20. Consistent with the Site, other than effects on landscape character areas as described above, there will be no physical change during the operational phases arising on the range of existing contextual landscape receptors within the study area beyond each of the development sites, namely land use; landform; vegetation; time depth; and function. The significance of effect on these receptors is therefore judged to be **neutral (not significant).**

9.6.21. Collectively, the construction phase will see the commencement of a permanent change to the greenfield land use element and character of each of the Sites. Effects at the Site level are predicted to be on balance **moderate (significant),** with the nature of effects being adverse.

9.6.22. Collectively, the proposed developments will result in permanent change to the greenfield land use element and character of each of the Sites. Effects at the Site level are predicted to be on balance **moderate (significant)** with the nature of effects being adverse.

### COMPLETED DEVELOPMENT - VISUAL EFFECTS

9.6.23. In terms of in combination effects, in addition, to the range of visual receptors identified in the visual assessment for the Proposed Development where effects range from minor to moderate, the completed development of Scheme 1 would additionally be apparent from viewpoints P2, Q, T, 14,15, 17, 16,18 and 19, and from where views of the Proposed Development Site are truncated. In combination effects are judged to be range from **major - moderate (significant) adverse** from these receptors.

9.6.24. Due to intervening vegetation and landform, the completed development of all Scheme would not be apparent from those visual receptors where views are identified as being truncated within the wider study area. The cumulative effects on these remaining truncated views are judged to be **neutral** (not significant).

## 9.7. SUMMARY

9.7.1. A full Landscape and Visual Impact Assessment has been completed, in line with best practice, as outlined in the relevant published guidance and as part of the iterative design process throughout the preparation of the parameter plans for the Proposed Development. The Landscape and Visual Impact Assessment has identified the baseline landscape resource, visual envelope, and a series of visual receptors through a combination of desktop study and Site surveys. The scope of the Landscape and Visual Impact Assessment, including the methodology and representative views has been agreed with Officers through the pre-application process. In addition, Visually Verified Montages are provided for five viewpoint locations.

9.7.2. The sensitivity of the landscape features, character and visual context of the Site and the study area have been identified. Sensitivity has then been cross referenced with the magnitude of change expected to result from the Proposed Development to ascertain the significance of effects using an appropriate methodology in line with published guidance. The impact assessment provides a description of the proposed change, the magnitude of the proposed change and the resulting significance of effects on landscape and visual receptors.

9.7.3. Mitigation measures formed during the iterative design process, which have been embedded into the design of the Proposed Development, include the protection of characteristic landscape features, visual amenity and ecology; limits to building heights and the location of ‘up to three storey’ elements within the west of the eastern parcel; provision of green infrastructure parameters informed by the baseline findings of the LVIA; and provision of open space, more than policy requirements.

9.7.4. The assessment has identified likely significant effects to the following receptors at the construction phase:

- Overall Site character – **Major Adverse**
- Site Landform - **Moderate Adverse**
- Site Land Use - **Major Adverse**
- Site Vegetation - **Moderate Adverse**
- Transient users of Christ’s Hospital Station and car park – **Moderate Adverse**
- Transient users of Two Mile Ash Road - **Moderate Adverse**
- Transient users of Worthing Road, Chessall Avenue and the roundabout junction to the A24 from Worthing Road - **Moderate Adverse**
- Residents immediately adjacent to the Site - **Moderate Adverse**

- Residents of Grade II* Listed Great House Farmhouse – **Major Adverse**

9.7.5. The assessment has identified likely significant effects to the following receptors at the operational phase:

- Overall Site character - **Moderate Adverse**
- Site Landform - **Moderate Adverse**
- Site Land Use - **Major Adverse**
- Site Vegetation - **Moderate Beneficial**
- Walkers within proximity using bridleways SOW-1662, SOW-3568 (the Downs Link), footpaths SOW-1660, SOW-1658, SOW-1656, SOW-1655, SOW- 1628-3 through Car Park Site and main Site - **Moderate Adverse**
- Transient users of Christ's Hospital Station and car park – **Moderate Adverse**
- Transient users of Worthing Road, Chessall Avenue and the roundabout junction to the A24 from Worthing Road - **Moderate Adverse**
- Residents immediately adjacent to the Site - **Moderate Adverse**
- Residents of Grade II* Listed Great House Farmhouse – **Moderate Adverse**

9.7.6. Landscape and Visual Considerations as presented at **Appendix 9.5**, have informed the emerging design of the Proposed Development, as set out within the Design and Access Statement and as explained through the pre-application process with Officers, and presented at the Design Review Panel during the design process.

9.7.7. The LVIA finds that due to the combination of topography, built form and vegetation, the contextual landscape / site setting is limited to the immediate local landscape. Furthermore, there are no views of local or strategic importance identified in the local area that are protected in policy terms. Visual receptors experiencing the most significant effects are located within immediate proximity to the Site, where the Site informs the character and amenity of a large part of the view. Additionally, there is no visual connectivity between the site and any nearby settlement beyond Southwater as the site is set down below the horizon and within a well-wooded context.

9.7.8. The assessment concludes that as with any greenfield site, a degree of change to landscape and visual receptors is expected. The Site's allocation within the emerging Local Plan, together with its allocation in the Neighbourhood Plan, establishes the principles for development, recognises that there will be change relative to the Site's role in meeting identified local need.

9.7.9. Significant effects are predicted to occur for certain landscape and visual receptors, during construction as well as the operational phases. These effects are an unavoidable outcome of introducing new built form on a greenfield site. The assessment is based on the suite of parameter plans, which sets out the location and height of built form and green infrastructure that is responsive to its location and which carefully balances landscape and visual constraints. The parameter plans incorporate substantial green infrastructure and extensive areas of POS, exceeding policy requirements. It is considered that with a sensitive and high-quality approach and implementation of the planting as shown on the Illustrative Landscape Masterplan, development of the site as proposed would maintain the character of the receiving contextual landscape beyond the site and minimise landscape and visual harm on intermediate and wider receptors. These elements form the framework of the design and play a key role in mitigating potential significant effects by creating buffers, bolstering existing landscape features, creating more filtered views towards the Site through

proposed and retained planting. Overtime, as planting establishes and matures, the magnitude of landscape and visual change is expected to reduce, further integrating the development into its landscape context.

9.7.10. **Table 9.5** provides a summary of the findings of the assessment.

**Table 9-5 - Summary of landscape and visual effects**

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Construction Phase** | | | | | |
| NCA 12 Low Weald | Change from predominantly agricultural land to a construction site, affecting a very small part of NCA 12. | **Negligible Adverse (not significant)** T / D / ST | Detailed CEMP | **Negligible Adverse (not significant)** T / D / ST | n/a |
| West Sussex Landscape Character Area H1 Central Low Weald | Change from predominantly agricultural land to a construction site, affecting a small part of LCA H1. | **Minor Adverse (not significant)** T / D / ST | Detailed CEMP | **Minor Adverse (not significant)** T / D / ST | n/a |
| Horsham District Landscape Character Area H1 Southwater and Christ's Hospital Farmlands | Change from predominantly agricultural land to a construction site, affecting a small part of LCA H1. | **Minor Adverse (not significant)** T / D / ST | Detailed CEMP | **Minor Adverse (not significant)** T / D / ST | n/a |
| Overall Site character | Change from agricultural fields to construction site. | **Major Adverse (significant)** T / D / ST | Detailed CEMP | **Major Adverse (significant)** T / D / ST | n/a |
| Site Landform | Localised changes to facilitate development platforms and drainage features. | **Moderate Adverse (significant)** T / D / ST | Detailed CEMP | **Moderate Adverse (significant)** T / D / ST | |
| Site Land Use | Change from agricultural to a construction site. | **Major Adverse (significant)** T / D / ST | Detailed CEMP | **Major Adverse (significant)** T / D / ST | n/a |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Site Vegetation | Vegetation loss limited to locations necessary to facilitate access and infrastructure requirements. | **Moderate Adverse (significant)** T / D / ST | Detailed CEMP | **Moderate Adverse (significant)** T / D / ST | n/a |
| Site Function | Change in site's agricultural land use as part of the setting to Listed Buildings, to that of a construction site. | **Minor - Moderate Adverse (significant)** T / D / ST | Detailed CEMP | **Minor - Moderate Adverse (significant)** T / D / ST | n/a |
| Walkers within proximity using bridleways SOW-1662, SOW-3568 (the Downs Link), footpaths SOW-1660, SOW-1658, SOW-1656, SOW-1655, SOW- 1628-3 through Car Park Site and main Site | Change from views of agricultural land to that of a construction site. | **Major Adverse (significant)** T / D / ST | Detailed CEMP | **Major Adverse (significant)** T / D / ST | n/a |
| Walkers within the local landscape from PRoW ITC-1651 to the west of the Site | Change from views of countryside to that including glimpses of a construction site | **Minor Adverse (not significant)** T / D / ST | Detailed CEMP | **Minor Adverse (not significant)** T / D / ST | n/a |
| Transient users of Christ's Hospital Station and car park | Change from views of agricultural land to that of a construction site. | **Moderate Adverse (significant)** T / D / ST | Detailed CEMP | **Moderate Adverse (significant)** T / D / ST | n/a |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Transient users of Two Mile Ash Road | Change from rural fields and hedgerows to that of a construction site, framed by retained mature trees and hedgerows. | **Moderate Adverse (significant)** T / D / ST | Detailed CEMP | **Moderate Adverse (significant)** T / D / ST | n/a |
| Transient users of Worthing Road, Chessall Avenue and the roundabout junction to the A24 from Worthing Road | Change from views of agricultural land to that of a construction site. | **Moderate Adverse (significant)** T / D / ST | Detailed CEMP | **Moderate Adverse (significant)** T / D / ST | n/a |
| Transient users of Marlpost Road and Church Lane | Glimpses of the construction site and associated activities would be experienced, set behind the existing retained framework of trees and woodland. | **Negligible Adverse (not significant)** T / D / ST | Detailed CEMP | **Negligible Adverse (not significant)** T / D / ST | n/a |
| Residents immediately adjacent to the Site | Change from predominantly filtered views of agricultural land to filtered views of a construction site. A limited number of residents would additionally perceive the tree and hedgerow removals at the western and eastern boundaries. | **Moderate Adverse (significant)** T / D / ST | Detailed CEMP | **Moderate Adverse (significant)** T / D / ST | n/a |
| Residents of Grade II* Listed Great House Farmhouse | Change from open views of agricultural land to open and partial views of a construction site. | **Major Adverse (significant)** T / D / ST | Detailed CEMP | **Major Adverse (significant)** T / D / ST | n/a |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Residents of Grade II Listed College Farmhouse | Change from filtered views of agricultural land to filtered views of a construction site, set back behind retained green infrastructure. | **Minor Adverse (not significant)** T / D / ST | Detailed CEMP | **Minor Adverse (not significant)** | n/a |
| Those at Grade II Listed Holy Innocents Church and Christ's Hospital School | Change from filtered views of agricultural land to filtered views of a construction site, set back behind retained green infrastructure. | **Minor Adverse (not significant)** | Detailed CEMP | **Minor Adverse (not significant)** | n/a |
| **Operational Phase** | | | | | |
| NCA 12 Low Weald | Change from predominantly agricultural land to a new neighbourhood and open space, affecting a very small part of NCA 12. | **Minor Adverse (not significant)** P / D / LT | LEMP | **Minor Adverse (not significant)** P / D / LT | n/a |
| West Sussex Landscape Character Area H1 Central Low Weald | Change from predominantly agricultural land to a new neighbourhood and open space, affecting a small part of LCA H1. | **Minor Adverse (not significant)** P / D / LT | LEMP | **Minor Adverse (not significant)** P / D / LT | n/a |
| Horsham District Landscape Character Area H1 Southwater and Christ's Hospital Farmlands | Change from predominantly agricultural land to a new neighbourhood and open space, affecting a small part of LCA H1. | **Minor Adverse (not significant)** P / D / LT | LEMP | **Minor Adverse (not significant)** P / D / LT | n/a |
| Overall Site character | Change from agricultural fields to a new neighbourhood and open space. | **Major Adverse (significant)** P / D / ST | LEMP and maturation of the existing | **Moderate Adverse (significant)** | n/a |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | | | and proposed green infrastructure | P / D / ST | |
| Site Landform | No further substantial changes are anticipated during the operational phase. | **Moderate Adverse (significant)** P / D / LT | LEMP | **Moderate Adverse (significant)** P / D / LT | n/a |
| Site Land Use | Change from agricultural to a new neighbourhood and open space. | **Major Adverse (significant)** P / D / ST | LEMP | **Major Adverse (significant)** P / D / ST | n/a |
| Site Vegetation | No further tree loss anticipated during the operational phase. Maturation of vegetation planted during the construction period. | **Moderate Adverse (significant)** P / D / ST | LEMP and maturation of the existing and proposed green infrastructure | **Moderate Beneficial (significant)** P / D / ST | n/a |
| Site Function | Change in site's agricultural land use as part of the setting to Listed Buildings, to that of a new neighbourhood set amongst a robust network of green infrastructure and open space. | **Minor - Moderate Adverse (significant)** P / D / ST | LEMP | **Minor Adverse (not significant)** P / D / ST | n/a |
| Walkers within proximity using bridleways SOW-1662, SOW-3568 (the Downs Link), footpaths | Change from views of agricultural land to that of a new neighbourhood and open space. | **Major Adverse (significant)** P / D / ST | LEMP and maturation of the existing and | **Moderate Adverse (significant)** P / D / ST | n/a |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| SOW-1660, SOW-1658, SOW-1656, SOW-1655, SOW- 1628-3 through Car Park Site and main Site | | | proposed green infrastructure | | |
| Walkers within the local landscape from PRoW ITC-1651 to the west of the Site | Change from views of countryside to that including glimpses of a new neighbourhood. | **Minor Adverse (not significant)** P / D / ST | LEMP and maturation of the existing and proposed green infrastructure | **Minor Adverse (not significant)** P / D / ST | n/a |
| Transient users of Christ's Hospital Station and car park | Change from views of agricultural land to that of a new car park. | **Moderate Adverse (significant)** P / D / ST | LEMP and maturation of the existing and proposed green infrastructure | **Moderate Adverse (significant)** P / D / ST | n/a |
| Transient users of Two Mile Ash Road | Change from rural fields and hedgerows to that of the new neighbourhood, framed by retained mature trees and hedgerows. | **Minor Adverse (not significant)** P / D / ST | LEMP and maturation of the existing and proposed green infrastructure | **Minor Adverse (not significant)** P / D / ST | n/a |
| Transient users of Worthing Road, Chessall Avenue and the roundabout junction | Change from views of agricultural land to that of the new neighbourhood, framed by mature trees and hedgerows. | **Moderate Adverse (significant)** P / D / ST | LEMP and maturation of the existing and proposed | **Moderate Adverse (significant)** P / D / ST | n/a |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| to the A24 from Worthing Road | | | green infrastructure | | |
| Transient users of Marlpost Road and Church Lane | Glimpses of the new neighbourhood would be experienced, set behind the existing retained framework of trees and woodland. | **Negligible Adverse (not significant)** P / D / ST | LEMP and maturation of the existing and proposed green infrastructure | **Negligible Adverse (not significant)** P / D / ST | n/a |
| Residents immediately adjacent to the Site | Change from predominantly filtered views of agricultural land to that of the new neighbourhood. | **Major Adverse (significant)** P / D / ST | LEMP and maturation of the existing and proposed green infrastructure | **Moderate Adverse (significant)** P / D / ST | n/a |
| Residents of Grade II* Listed Great House Farmhouse | Change from open views of agricultural land to open and partial views of the new neighbourhood, set amongst a robust green infrastructure framework, which will have matured by year 15. | **Major Adverse (significant)** P / D / ST | LEMP and maturation of the existing and proposed green infrastructure | **Moderate Adverse (significant)** P / D / ST | n/a |
| Residents of Grade II Listed College Farmhouse | Change from filtered views of agricultural land to filtered views of the new neighbourhood, set back behind retained green infrastructure and open space. | **Minor Adverse (not significant)** P / D / ST | LEMP and maturation of the existing and proposed green infrastructure | **Minor Adverse (not significant)** P / D / ST | n/a |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Those at Grade II Listed Holy Innocents Church and Christ's Hospital School | Change from filtered views of agricultural land to filtered views of the new neighbourhood, set back behind retained green infrastructure. | **Minor Adverse (not significant)**<br>P / D / ST | LEMP and maturation of the existing and proposed green infrastructure | **Minor Adverse (not significant)**<br>P / D / ST | n/a |

Key to table:

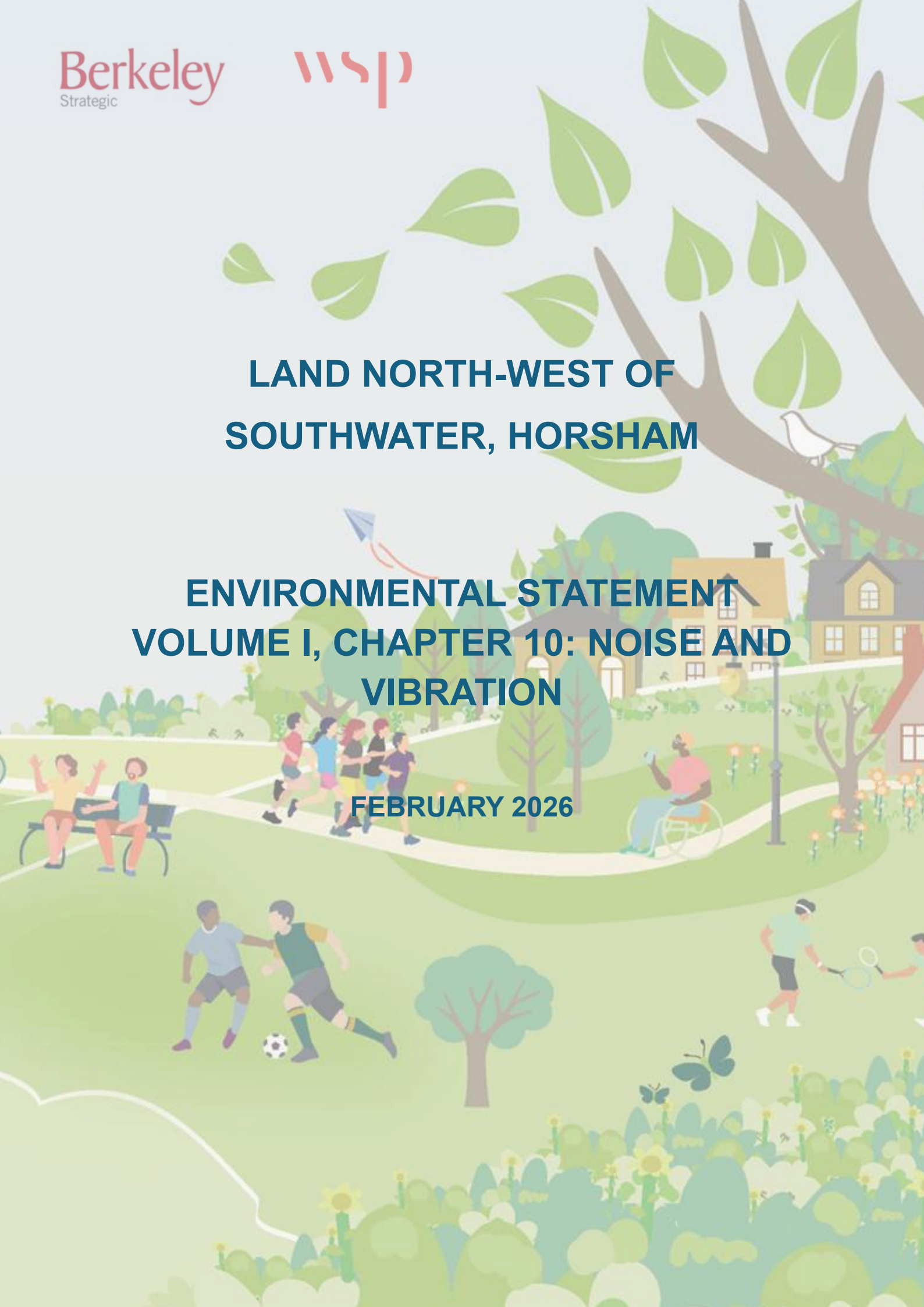
**P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable**

## 9.8. REFERENCES


- **Reference 9.1**: Illustrative Masterplan, 2026
- **Reference 9.2** Building Heights Parameter Plan (2026)
- **Reference 9.3**: Landscape Institute & Institute of Environmental Management & Assessment (LIIEMA) (2013). Guidelines for Landscape and Visual Impact Assessment. 3rd Edition. Landscape Institute and Institute of Environmental Management and Assessment (2013) Guidelines for Landscape and Visual Impact Assessment. Third Edition. Spon Press. (GLVIA3).
- **Reference 9.4:** Horsham District Council (2023) Local Plan 2023 - 2040 (Regulation 19) Appendix 1 - Horsham District Local Plan Regulation 19 Dec 2023.pdf [Accessed September 2025].
- **Reference 9.5**: Woodlands listed on Natural England's Ancient Woodland Inventory.
- **Reference 9.6**: Multi-Agency Geographic Information for the Countryside (MAGiC) Available online: www.magic.gov.uk for landscape and heritage designations. [Accessed August 2025].
- **Reference 9.7**: Historic England for landscape and heritage designations.
- **Reference 9.8**: Natural England for National Character Areas.
- **Reference 9.9**: West Sussex Landscape Character Assessment – Interactive map.
- **Reference 9.10**: Horsham District Council (2014). Horsham Landscape Character Assessment.
- **Reference 9.11**: Landscape and Visual Technical Note (2025)
- **Reference 9.12**: Arboricultural Impact Assessment (2026)

WSP House
70 Chancery Lane
London
WC2A 1AF

**wsp.com**



# LAND NORTH-WEST OF SOUTHWATER, HORSHAM

# ENVIRONMENTAL STATEMENT VOLUME I, CHAPTER 10: NOISE AND VIBRATION

FEBRUARY 2026

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# 10. NOISE AND VIBRATION

## 10.1. INTRODUCTION

10.1.1. This chapter reports the outcome of the assessment of likely significant effects arising from the Proposed Development upon noise and vibration. The land upon which the Proposed Development is to be built is referred to in this chapter as “the Site”.

10.1.2. The assessment of noise and vibration has established that the following additional mitigation measures are required:

- Adherence to the Construction Environmental Management Plan (CEMP) including the implementation of Best Practicable Means (BPM) during construction of the Proposed Development; and
- Design, selection and configuration of external fixed plant to achieve specified noise emission limits during operation of the Proposed Development.

10.1.3. The following residual effects have been identified:

- Direct, temporary, short-term **moderate / major adverse** residual effects (**significant**) as a result of construction noise levels when works are taking place close to nearby receptors;
- Direct, permanent, long-term **moderate adverse** residual effects (**significant**) as a result of noise from the Secondary Road at receptors at Chessall Avenue. It is important to note that this is based on a precautionary assessment and when considering relevant contextual factors, it is likely that this impact will be of lower magnitude. In any case, this assessment will need to be reconsidered at the reserved matters stage when the Secondary Road is brought forward in detail; and
- Indirect, permanent, long-term **non-significant** effects as a result of development generated road traffic noise at receptors fronting the surrounding road network.

10.1.4. The remainder of this chapter describes the assessment methodology and the baseline conditions relevant to the assessment, which have been used to reach these conclusions, as well as a summary of the likely significant effects leading to the additional mitigation measures required to avoid, prevent, reduce or, if possible, offset any likely significant adverse effects, and the likely residual effects and any required monitoring after these measures have been employed. Opportunities for environmental enhancement, where such opportunities exist, are also discussed.

10.1.5. This chapter is accompanied by the following appendices:

- **Volume 2 Appendix 10.1 Site Suitability Assessment;**
- **Volume 2 Appendix 10.2 Legislation, Policy and Guidance;**
- **Volume 2 Appendix 10.3 Construction Plant Assumptions;**
- **Volume 2 Appendix 10.4 Baseline Noise Survey ;** and
- **Volume 2 Appendix 10.5 Predicted Basic Noise Levels**.

## 10.2. CONSULTATION, SCOPE, METHODOLOGY AND SIGNIFICANCE CRITERIA

### CONSULTATION UNDERTAKEN TO DATE

10.2.1. The 2025 EIA Scoping Report **(Volume 2, Appendix 1.1)** set out in detail, the proposed methodology for the noise and vibration assessment, including details of the noise survey undertaken at the Site in 2022. The EIA Scoping Opinion from Horsham District Council (HDC), was in general agreement with the proposed methodology. Additional consultation with HDC was undertaken regarding further noise surveys undertaken in 2025. Details of this consultation are set out in **Table 10-1**.

**Table 10-1 - Summary of consultation undertaken**

| Body / organisation | Individual / stat body / organisation | Meeting dates and other forms of consultation | Summary of outcome of discussions |
|---|---|---|---|
| HDC | Lee Money (Team Leader Environmental Protection) | Emails exchanged in October 2025 | It was agreed that an attended noise survey would be undertaken in 2025 (at locations MP1, MP2, MP3 and MP4 as set out in Section 10.4 below) to supplement the noise survey data from the 2022 noise survey. The purpose of this survey is to demonstrate that significant changes have not occurred to the noise climate affecting the Site since 2022, and as such, the previous noise survey remains valid. |

### SCOPE OF THE ASSESSMENT

10.2.2. Further information on the scoping process can be found in **Volume 1, Chapter 5: Approach to EIA**.

10.2.3. This section provides an update to the scope of the assessment and re-iterates the evidence base for scoping out elements considered unlikely to result in significant effects. The Scoping Opinion from HDC did not request any changes to the scope of the assessment from the Scoping Report.

### ELEMENTS SCOPED OUT OF THE ASSESSMENT

10.2.4. The elements shown in **Table 10-2** are not considered to give rise to likely significant effects as a result of the Proposed Development and have therefore not been considered within this assessment:

**Table 10-2 - Elements scoped out of the assessment**

| Element scoped out | Justification |
|---|---|
| Off-site construction traffic noise | Given the existing volume of traffic that is anticipated on the local road network, it is considered highly unlikely that construction vehicles associated with the Proposed Development will lead to significant adverse effects. For reference, change in noise level of 3 dB or more would typically lead to a significant adverse effect on a road link. |
| Road traffic noise from existing roads altered as part of the Proposed Development | It is considered unlikely that the proposed alignment and traffic signalling changes to existing roads surrounding the Site will lead to significant adverse effects. |
| Noise from fixed building services plant | It is anticipated that sufficient detail (final plant specifications and locations) will not be available to undertake a worthwhile assessment of fixed building services plant noise at this stage. Any fixed building services plant will be designed to meet plant noise emission levels set in accordance with HDC. It is anticipated that this will be conditioned. |
| Noise at Christ's Hospital Station car park | It was previously assumed that new car parking spaces would be provided at Christ's Hospital Station car park, however, it is now understood that this may not be required as part of the Proposed Development. As such, an assessment of noise at Christ's Hospital Station car park has been scoped out of this assessment. If required, this should be assessed at reserved matters stage. In order to facilitate any further assessment, the relevant noise survey data captured at Christ's Hospital Station is included within this chapter and its associated appendices. |
| Noise from the proposed schools | Sources of noise associated with the schools forming part of the Proposed Development will be no different to sources associated with other schools countrywide. As the exact location and orientation of the schools are not yet known, a detailed assessment cannot be undertaken at this stage. However, most of the time, schools and adjacent dwellings co-exist side-by-side without any issues and it is anticipated that this will be the case here. |

## ELEMENTS SCOPED INTO THE ASSESSMENT

### Construction Phase

10.2.5. The following elements are considered to have the potential to give rise to likely significant effects during construction of the Proposed Development and have therefore been considered within this assessment:

- On-site construction noise; and
- On-site construction vibration.

**Operation Phase**

10.2.6. The following elements are considered to have the potential to give rise to likely significant effects during operation of the Proposed Development and have therefore been considered within this assessment:

- Development generated road traffic noise on wider network roads;
- Development generated road traffic noise on the Primary Road and Secondary Road;
- Noise from employment land; and
- Noise from sports pitches.

## EXTENT OF THE STUDY AREA

10.2.7. The study area is defined by the boundaries of the Site (**Volume 1, Chapter 1 Figure 1.1 Site Location Plan**), the proximity of potentially affected sensitive receptors, and the location of key sources of noise, including local road traffic and commercial / industrial premises local to the Site.

## METHOD OF BASELINE DATA COLLECTION

### NOISE SURVEYS

10.2.8. Between March and May 2022 and in November 2025, WSP engineers attended the Site to undertake a number of noise measurements at various locations representative of nearby and future receptors.

10.2.9. The purpose of the noise measurements was to provide an understanding of the baseline noise climate on the Site to inform the assessments within this chapter. Further details of the noise survey are provided in **Section 10.4**.

## ASSESSMENT METHODOLOGY

10.2.10. The relevant legislation, policy and guidance documents which the assessment methodologies for this chapter are based on are summarised below in **Section 10.3**, and within **Volume 2, Appendix 10.2: Legislation Policy and Guidance**.

10.2.11. However, the Noise Policy Statement for England (NPSE) (**Ref 10.1**) is relevant for all assessments within this chapter and the key aspects of this document which relate to this assessment are discussed in the following paragraphs.

10.2.12. The NPSE repeatedly refers to the management and control of noise within the context of government policy on sustainable development and stresses that noise impact should not be treated in isolation from other related factors.

10.2.13. The NPSE introduces and describes three categories, or levels, describing the presence or absence of noise effects but does not quantify those categories, stating that the corresponding objective levels are likely to be different for different noise sources, receptors and times of the day or night. These categories are:

- **NOEL – No Observed Effect Level** – This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to noise;

- **LOAEL – Lowest Observed Adverse Effect Level** – This is the level above which adverse effects on health and quality of life can be detected, and
- **SOAEL – Significant Observed Adverse Effect Level** – This is the level above which significant adverse effects on health and quality of life occur.

10.2.14. The NPSE recognises that, at the time of publication, further research is needed into how these categories might be quantified for different scenarios. There is still no robust, universally accepted method of deriving suitable values and a variety of approaches are adopted in different circumstances. However, professional judgement and relevant guidance documents have been used to define the NOEL, LOAEL and SOAEL in this ES chapter.

**Construction Phase**

**Construction Noise**

*Construction Noise Predictions*

10.2.15. BS 5228-1:2009+A1:2014 (BS 5228-1) **(Ref. 10.2)** provides guidance on the measurement and prediction of construction noise. Of particular relevance to this assessment are the calculation procedures set out in Annex F to BS 5228-1 as these have been used to quantify the likely noise levels from specific construction activities.

10.2.16. The noise level generated by construction activities depends on a number of factors. The prediction procedures described in BS 5228-1 take into account the more significant factors, these being:

- The sound power output of the plant or machine;
- The periods of operation;
- The distance between source and receiver;
- The presence of screening by barriers;
- Absorbent ground cover attenuation, and
- The reflection of noise.

10.2.17. BS 5228-1 also notes (in Annex F, section F.1) that:

*"…other factors such as meteorological conditions (particularly wind speed and direction) and atmospheric absorption may also influence the level of noise received. The estimation of the effects of these factors is complicated… In general, at short distances (say less than 50 m), the size of any effects arising from these factors will be small, whereas at longer distances there will be a tendency towards an increase in sound attenuation".*

10.2.18. The construction noise levels reported in this chapter have been calculated using the methods contained within Annex F of BS 5228-1 and using source data contained within Annex C of BS 5228-1.

10.2.19. The main activities during the construction stage have been aligned with the following:

- Activity 1 – Site clearance and foundations;
- Activity 2 – Building construction; and
- Activity 3 – Landscaping and access roads.

10.2.20. For each of the main activities, the likely environmental noise effects have been predicted at nearby existing noise sensitive receptors.

10.2.21. The construction noise predictions are based on methodology contained within BS 5228-1 and consider the equivalent continuous sound level ($L_{Aeq,T}$) over the core working day, assumed to be from 08:00 to 18:00 hours Monday to Friday and 08:00 to 13:00 hours on Saturday.

10.2.22. At this stage, the amount and type of construction plant that will be required for the construction of the Proposed Development is not yet known. Therefore, construction plant noise emission data have been taken from Annex C of BS 5228-1 for the likely plant assumed for the Site. A full list of the likely plant items and their associated sound power levels, along with the expected "on-time" (the percentage of the time the plant operates over the working day), as agreed with the design team, are presented in **Volume 2, Appendix 10.3: Construction Plant Assumptions**.

*Construction Noise Thresholds*

10.2.23. Two key aspects underpinning the adopted methodology to assess construction noise are:

- The baseline noise levels, (see Baseline Conditions **Section 10.4** below), and
- Threshold levels determined as per BS 5228-1 Section E3.2 and Table E1.

10.2.24. The BS 5228-1 ABC method of assessing the potential significance of construction related noise (Table E1 in the Standard) is reproduced in **Table 10-3** below. The table and associated notes describe how the existing ambient noise level is used to determine relevant threshold categories for the construction noise assessment.

**Table 10-3 - Construction noise – BS 5228-1 – threshold of potential significant effect at the façades of sensitive receptors**

| Assessment category and threshold value period | Threshold value, in decibels (dB, $L_{Aeq,T}$) | | |
|---|---|---|---|
| | Category A[A)] | Category B[B)] | Category C[C)] |
| Night-time (23:00 −07:00) | 45 | 50 | 55 |
| Evenings and weekends [D)] | 55 | 60 | 65 |
| Daytime (07:00 −19:00) and Saturdays (07:00−13:00) | 65 | 70 | 75 |
| NOTE 1 - A potential significant effect is indicated if the $L_{Aeq,T}$ noise level arising from the Site exceeds the threshold level for the category appropriate to the ambient noise level. | | | |
| NOTE 2 - If the ambient noise level exceeds the Category C threshold values given in the table (i.e. the ambient noise level is higher than the above values), then a potential significant effect is indicated if the total $L_{Aeq,T}$ noise level for the period increases by more than 3 dB due to site noise. | | | |
| NOTE 3 - Applied to residential receptors only. | | | |
| A) Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are less than these values. | | | |
| B) Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are the same as category A values. | | | |
| C) Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are higher than category A values. | | | |
| D) 19:00–23:00 weekdays, 13:00–23:00 Saturdays and 07:00–23:00 Sundays. | | | |

10.2.25. Given the fairly low baseline noise levels across the Site and surrounding area, in line with the approach set out within BS 5228-1 set out above, the most stringent (Category A) criteria have been considered most appropriate for this assessment.

### Construction Vibration

*Construction Vibration Predictions*

10.2.26. At this stage it is unknown whether piling will be required for any of the proposed buildings. It is understood that this is dependent on the existing ground conditions on the Site and the design of the future buildings. Where possible, any piling should adopt a method that generates low levels of vibration to limit disturbance to nearby receptors.

10.2.27. It is therefore proposed that if piling is required (and not of the bored method), vibration impacts are assessed at a later stage, once more detailed information is available.

10.2.28. However, it is anticipated that vibratory rollers may be required to compact ground on the Site. Vibratory rollers can generate vibration locally and these impacts have therefore been assessed within this chapter.

*Construction Vibration Thresholds*

10.2.29. With respect to human exposure to building vibration, Table B1 of Annex B to BS 5228-2 **(Ref.10.2)** provides guidance on the effects of vibration levels on human beings. This is reproduced in **Table 10-4**.

**Table 10-4 - BS 5228-2 Guidance on effects of vibration levels**

| Vibration level | Effect |
|---|---|
| 0.14 mm·s$^{-1}$ | Vibration might be just perceptible in the most sensitive situations for most vibration frequencies associated with construction. At lower frequencies, people are less sensitive to vibration. |
| 0.3 mm·s$^{-1}$ | Vibration might be just perceptible in residential environments. |
| 1.0 mm·s$^{-1}$ | It is likely that vibration of this level in residential environments will cause complaint, but can be tolerated if prior warning and explanation has been given to residents. |
| 10 mm·s$^{-1}$ | Vibration is likely to be intolerable for any more than a very brief exposure to this level. |

**Operational Phase**

### Development Generated Road Traffic Noise on Existing Roads

10.2.30. The change in noise levels resulting from additional traffic flows associated with the Proposed Development has been predicted based on traffic data provided by the project's transport consultant (WSP)in 2026. Traffic data was provided for a large area covering much of West Sussex. In order to present a proportionate assessment, focussing on the key impacts on routes most likely to be affected by the Proposed Development, the roads assessed within this chapter are those within approximately 1km of the Site Boundary. These routes are considered most likely to be affected directly as a result of the Proposed Development.

10.2.31. Noise levels have been calculated in line with guidance contained within the Department of Transport and Welsh Office memorandum Calculation of Road Traffic Noise (CRTN) (1988) **(Ref. 10.3).** The noise level from each road link has been calculated in terms of the basic noise level

(BNL) which is the level at a notional 10m from the kerb of the road. The magnitude of impact has then been assessed in general accordance with the guidance contained in DMRB LA 111 Noise and vibration (2020) **(Ref. 10.4)** using, in particular, the magnitude of noise impact classifications contained in that document.

10.2.32. DMRB LA 111 sets out an approach whereby the change in noise levels is considered in the short-term (year of opening) and the long-term (typically the year of opening plus 15 years). DMRB LA 111 includes magnitude of impact scales for both of these assessment scenarios with the long-term comparison being more relaxed (i.e. higher changes in noise level are required for impacts to be considered significant). However, as the Proposed Development will be built out in phases over several years, an alternative approach has been considered appropriate as set out below.

10.2.33. The following traffic data scenarios have been used in this assessment:

- 2024 Baseline;
- 2036 (year of full occupation) without the Proposed Development; and
- 2036 with the Proposed Development

10.2.34. Therefore, the following assessment comparisons have been adopted:

- Comparison 1 – 2024 Baseline vs 2036 with the Proposed Development. This comparison will be based on the DMRB LA 111 long-term magnitude of impact scale; and
- Comparison 2 – 2036 without the Proposed Development vs 2036 with the Proposed Development. This comparison will be based on the DMRB LA 111 short-term magnitude of impact scale.

10.2.35. The 2036 with the Proposed Development scenario assumes that the Site is fully occupied in terms of the numbers of vehicles accessing the Proposed Development and using the surrounding roads.

10.2.36. The magnitude of impact scale adopted for this assessment is presented in **Table 10-5**.

### Access Road Noise

10.2.37. The Proposed Development will have a number of primary and secondary access routes for vehicles which will connect to the existing road network. The primary access is referred to as the Primary Road and is currently proposed to connect to Worthing Road near Hop Oast roundabout at the north east of the Site. The Secondary Road will run south through the Proposed Development before connecting to Chessall Avenue near the south east of the Site. The indicative location of the Primary Road and Secondary Road alignment is shown on the **Movement Plan**.

10.2.38. As the Primary Road and Secondary Road run through the Proposed Development itself there is limited potential for adverse impacts at existing receptors, however, there are several existing receptors in proximity which may be adversely affected.

10.2.39. It should be noted that given the outline nature of this application, detailed road alignments are not yet available. However, for this assessment an indicative alignment has been assessed based on the submitted Movement Plan. The alignment does not include any earthworks at this stage which may provide screening to existing or future receptors; however, it is anticipated that some earthworks will be included within the final design following the outline application.

10.2.40. In order to predict the noise changes associated with the Primary Road and Secondary Road, noise predictions have been undertaken based on traffic data provided by the project's transport

consultants. Predictions have been undertaken for Comparison 2 as outlined above (2036 with the Proposed Development vs 2036 without the Proposed Development).

10.2.41. The same magnitude of impact scale for the assessment of operational development generated road traffic noise as outlined in **Table 10-5** has been adopted for this assessment.

10.2.42. Importantly, DMRB LA 111 **(Ref. 10.4)** requires that as well as the predicted noise level changes, other numerical and contextual factors (such as the absolute noise level and the acoustic character of the area) are considered in the determination of significance at a receptor.

### Noise from Employment Land

10.2.43. As shown on the Land Use **Parameter Plan**, the plot of land closest to the A24 at the north of the Site is allocated for employment uses. The proposed use classes are not yet fixed; however, the development is intended to comprise Use Classes B2, B8 and E(g). The , orientation of any proposed buildings is also not defined at this stage, reflecting the outline nature of the application.

10.2.44. Noise from the employment land (particularly if there are significant plant or external service yards or storage areas) could potentially lead to significant effects both at existing receptors and future receptors within the Proposed Development. The appropriate guidance for noise from employment land is BS 4142:2014+A12019 Methods for rating and assessing industrial and commercial sound (BS 4142) (**Ref 10.5**). The BS 4142 approach is based on a comparison of the noise level from the new source (rated to account for any appropriate character corrections) to the background noise level. This is referred to as the initial estimation of impact, which should be considered along with all relevant contextual factors in the final determination of significance.

10.2.45. Once further information is available regarding the likely uses of the Site and the orientation of buildings, a detailed assessment may need to be undertaken considering the impact of noise on nearby residents (existing and future). However, at this stage without this information, only a qualitative risk-based assessment can be undertaken and therefore a magnitude of impact scale has not been adopted for this assessment.

### Noise from Sports Pitches

10.2.46. An area of land in the south east corner of the Site is proposed to be used for sports pitches. Detailed layouts are not currently available. There are existing sports pitches located nearby so noise from this use will be broadly in keeping with the existing environment.

10.2.47. An important consideration for sports pitches are the hours and regularity of their use. Should they be used regularly into the evening period or at the weekend, there is an increased chance of disturbance to nearby residents. As there are a number of residents in proximity to these plots there is the potential for significant effects as a result of sports pitch noise.

10.2.48. The proposed pitches will be natural grass pitches, with their use largely dictated by seasonal factors (no floodlighting is proposed) and so during winter in particular, operating hours during evenings are likely to be very limited.

10.2.49. Once further information is available regarding the proposed layout, use and operating hours of the pitches, further assessment may be required. This should incorporate guidance within Sport England Artificial Grass Pitch (AGP) Acoustics – Planning Implications, New guidance for 2015 **(Ref. 10.6)** and Planning Noise Advice Document-Sussex 2023 **(Ref. 10.7)** which also references this guidance.

10.2.50. The AGP guidance suggests appropriate noise source levels for artificial grass pitches (although the guidance is often also used for grass pitches as well) and criteria to be adopted.

10.2.51. Given the outline nature of the proposals at this stage, a qualitative risk-based assessment has been undertaken at this stage and therefore a magnitude of impact scale has not been adopted for this assessment.

**SIGNIFICANCE CRITERIA**

10.2.52. The significance level attributed to each effect has been assessed based on the sensitivity / value of the affected receptor(s) and the magnitude of change arising from the Proposed Development, as well as a number of other factors that are outlined in more detail in **Volume 1, Chapter 5: Approach to EIA**. The magnitude of change is assessed on a scale of major, moderate, minor and negligible, as set out in **Volume 1, Chapter 5: Approach to EIA**.

**Construction Phase**

*Construction Noise*

10.2.53. The daytime threshold value[1] has been determined to be 65 dB (category A). Therefore, the following magnitude of impact scale has been adopted for construction noise.

**Table 10-5 - Magnitude of impact scale for the assessment of construction noise**

| Construction noise level, dB $L_{Aeq,10h/5h}$[1] | Magnitude of impact | NPSE Threshold |
|---|---|---|
| < 60.0 dB | Negligible | NOEL |
| 60 dB – 64.9 dB | Minor | LOAEL |
| 65 dB – 69.9 dB | Moderate | SOAEL |
| ≥ 70.0 dB | Major | |

*Construction Vibration*

10.2.54. The magnitude of impact criteria for construction vibration has been determined based on guidance within BS 5228-2 (as reproduced above in **Table 10-4**). However, a lower value of 5mms$^{-1}$ has been adopted for the major adverse criteria based on professional judgement.

[1] The threshold value is the noise level at which a potential significant effect is predicted at a dwelling. A potential significant effect is indicated if the construction noise level exceeds the threshold value. The threshold value was cautiously determined to be the most stringent (category A) which has been applied universally.

**Table 10-6 – Magnitude of Impact Scale – Construction Vibration**

| Peak particle velocity (PPV) $mms^{-1}$ | Magnitude of impact | NPSE Threshold |
|---|---|---|
| ≤0.3 | Negligible | NOEL |
| 0.4 – 0.9 | Minor | LOAEL |
| 1.0 – 4.9 | Moderate | SOAEL |
| ≥5.0 | Major | |

## Operational Phase

*Road Traffic Noise*

10.2.55. The LOAEL and SOAEL thresholds for operational road traffic are defined in DMRB LA 111 (Table 3.49.1) and have been reproduced in **Table 10-7** below.

**Table 10-7 - Operational road traffic noise LOAEL and SOAEL thresholds**

| Time period | LOAEL | SOAEL |
|---|---|---|
| Day (06:00 – 24:00) | 55 dB $L_{A10,18hr}$ façade | 68 dB $L_{A10,18hr}$ façade |
| Night (23:00 – 07:00) | 40 dB $L_{night}$, outside (free-field) | 55 dB $L_{night}$, outside (free-field) |

10.2.56. The criteria for assessing the magnitude of the predicted impact for operational road traffic noise is based on guidance within DMRB LA 111 **(Ref. 10.12)** and is presented in **Table 10-8** below. This magnitude of impact scale is applicable for both the assessment of development generated road traffic noise and the assessment of noise from the Primary Road and Secondary Road.

**Table 10-8 - Magnitude of impact scale for operational road traffic noise assessments**

| Short-term change in noise level, dB(A) | Long-term change in noise level, dB(A) | Magnitude of impact |
|---|---|---|
| 0 - 0.9 | 0 - 2.9 | Negligible |
| 1.0 - 2.9 | 3.0 - 4.9 | Minor |
| 3.0 - 4.9 | 5.0 - 9.9 | Moderate |
| ≥5.0 | ≥10.0 | Major |
| The above scale is reflective of positive noise level increases (i.e. adverse changes). However, the same scale applies for noise level decreases which correspond to beneficial changes. | | |

### EFFECT SIGNIFICANCE

10.2.57. As all receptors are considered highly sensitive to noise, a simplified approach to magnitude of impact and scale of effect has been adopted for this chapter. The following terms have been used to define the magnitude of impact and significance of the effects identified and apply to both beneficial and adverse effects:

- **Major effect**: where the Proposed Development could be expected to have a substantial improvement or deterioration on receptors;
- **Moderate effect**: where the Proposed Development could be expected to have a noticeable improvement or deterioration on receptors;
- **Minor effect**: where the Proposed Development could be expected to result in a perceptible improvement or deterioration on receptors; and
- **Negligible**: where no discernible improvement or deterioration is expected as a result of the Proposed Development on receptors, including instances where no change is confirmed.

10.2.58. As set out in **Volume 1, Chapter 5: Approach to EIA**, effects that are classified as **moderate or above** are considered to be **significant**.

10.2.59. Effects classified as below **moderate** are typically considered to not be significant. However, the approach for operational road traffic allows for the consideration of other numerical and contextual factors when considering whether a significant effect is likely to occur at a particular receptor.

## 10.3. LEGISLATIVE FRAMEWORK, POLICY AND GUIDANCE

### LEGISLATIVE FRAMEWORK

10.3.1. The applicable legislative framework is summarised as follows, with further details provided in **Volume 2, Appendix 10.2: Legislation Policy and Guidance**:

- Environmental Noise Directive 2002/49/EC, as implemented by the Environmental Noise (England) Regulations 2006 **(Ref. 10.8);**
- The Control of Pollution Act (CoPA), 1974 **(Ref. 10.9)**; and
- Environmental Impact Assessment Directive 2014/52/EU **(Ref. 10.10)**

### POLICY

10.3.2. **Volume 2, Appendix 10.2: Legislation Policy and Guidance** includes a summary of the noise policy from the following documents which are relevant to this assessment. Where it is relevant, policy and guidance from these documents has been described at the appropriate point in this chapter.

- National Planning Policy Framework (NPPF) (2025) **(Ref. 10.11)**;
- Defra Noise Policy Statement for England (NPSE) (2010) **(Ref. 10.1)**;
- Horsham District Council Planning Framework 2015 **(Ref. 10.12)**; and
- Horsham District Council Emerging Local Plan 2023 – 2040: Regulation 19 Draft[2] (the 'Emerging Local Plan') **(Ref. 10.13)**

[2] The examination for this document is ongoing, however, the Environmental Statement should still have regard to the policies within the withdrawn Regulation 19 version of the Local Plan, please see the Planning Context section of **Volume 1, Chapter 3: Description of the Proposed Development** for further detail.

10.3.3. In addition, this chapter has been prepared in accordance with the Government's National Planning Practice Guidance **(Ref. 6.14)**.

### GUIDANCE

10.3.4. The following guidance documents have been used during the preparation of this chapter, with further details provided in **Volume 2, Appendix 10.2: Legislation Policy and Guidance**:

- British Standard 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 1: Noise **(Ref. 10.2)**;
- British Standard 5228-1:2009+A1:2014 *Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration* **(Ref. 10.2)**;
- Highways England (2020). Design Manual for Roads and Bridges, LA 111 Noise and vibration **(Ref. 10.4)**;
- Department of Transport and Welsh Office memorandum (1988). Calculation of Road Traffic Noise **(Ref. 10.3)**;
- British Standard 8233:2014 *Guidance on sound insulation and noise reduction for buildings* **(Ref. 10.15)**;
- Professional Practice Guidance (2017). Planning and Noise: New Residential Development **(Ref. 10.17)**; and
- Planning Noise Advice Document: Sussex (2023) (**Ref 10.7)**

## 10.4. BASELINE CONDITIONS

### 2022 NOISE SURVEY

10.4.1. The existing baseline noise climate on the Site is predominantly dominated by road traffic from the A24 to the north and surrounding local road, including Worthing Road to the east and Two Mile Ash Road to the west.

10.4.2. An environmental survey was undertaken at seven unattended and one attended position on the Site. The measurement positions (MP) are shown on **Figure 10-1** and are described below in **Table 10-9**. The 2022 noise survey locations were agreed as part of the consultation for the previous application on the Site. They were also included in the 2025 Scoping Report and no comments were received from HDC regarding the noise survey locations.

**Figure 10-1 - Noise Measurement Positions**

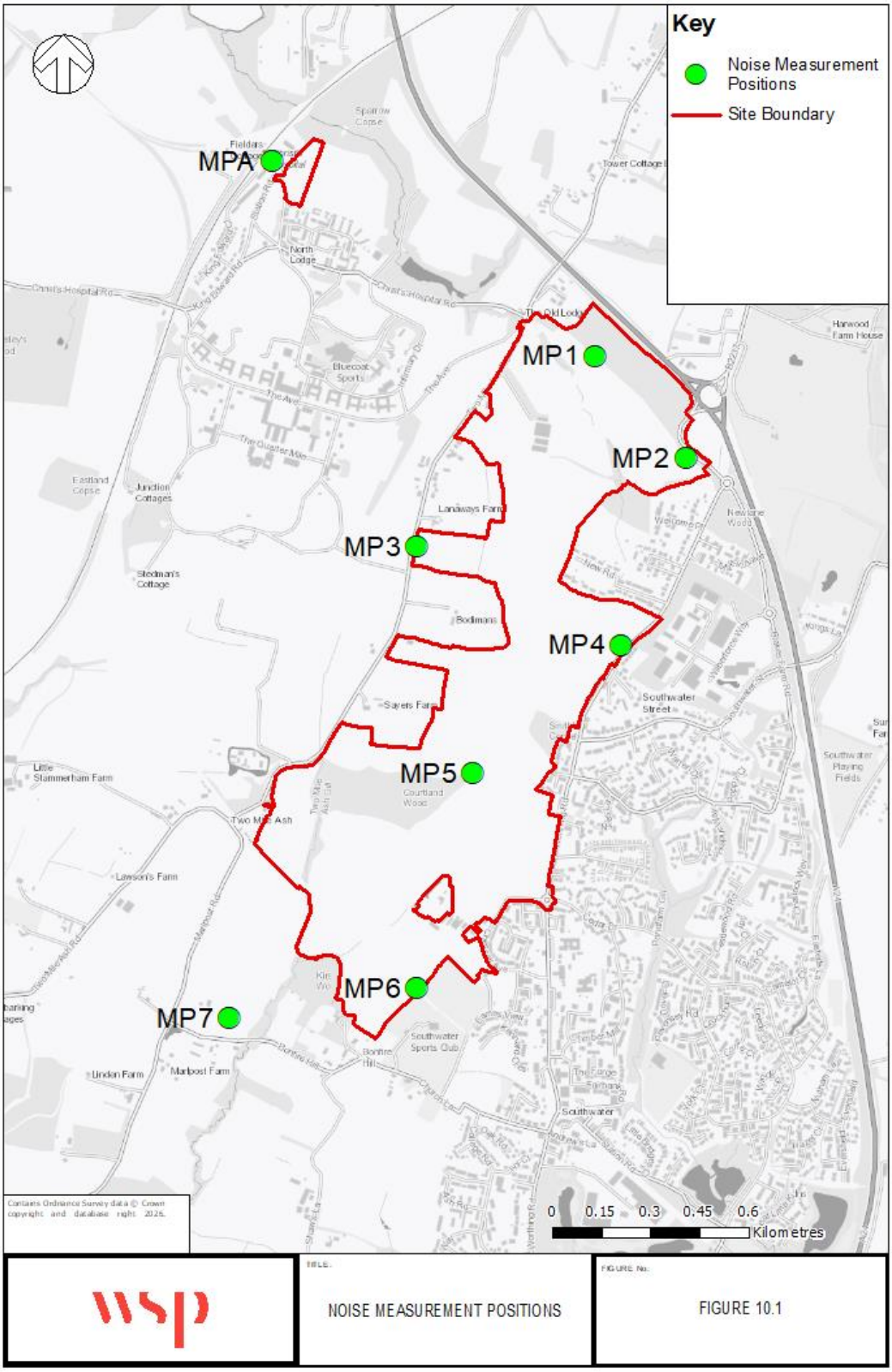


**Table 10-9 – Description of Noise Measurement Positions**

| MP Number | Date of survey | Description / Purpose of measurement |
|---|---|---|
| MP1 | 30/03/22 – 06/04/22 | This position was located along the edge of woodland south of the A24 and west of the Hop Oast Roundabout. The microphone was mounted on a pole at 1.8m high. The purpose of this measurement was to capture the noise levels originating from the A24 to the north. |
| MP2 | 30/03/22 – 06/04/22 | This position was located in the north east corner of the Site, adjacent to the section of Worthing Road that links to the Hop Oast Roundabout. The microphone was mounted on a pole at a height of 3m above ground so as to have a line of sight to the road (which is elevated above the local ground height of the Site). The purpose of this measurement was to capture the noise levels from Worthing Road and the A24 to the east. |
| MP3 | 30/03/22 – 06/04/22 | This position was located adjacent east of Two Mile Ash Road to the west of the Site. The microphone was mounted on a pole at a height of 1.8m to have line of sight to the road over the hedgerow. The purpose of this position was to capture the noise levels originating from the Two Mile Ash Road. |
| MP4 | 27/04/22 – 05/05/22 | This position was located on the west side of Worthing Road. The microphone was mounted on a pole within the hedge at 1.8m high. The purpose of this position was to capture the noise levels originating from Worthing Road and the residential housing located east and north of the position. |
| MP5 | 27/04/22 – 05/05/22 | This position was located at the north of Courtland Wood located roughly central to the Site. The microphone was mount on a pole at a height of 1.8m. The purpose of this position was to capture the noise levels at the approximate centre of the Site from the A24 to the north, Worthing Road to the east and Two Mile Ash Road to the west. |
| MP6 | 27/04/22 – 05/05/22 | This position was located off the Downs Link footpath just west of the Southwater Sports Club pitches. The microphone was mounted on a pole at a height of 2.5m. The purpose of this position was to capture the noise levels originating from the sports fields during heavy traffic days and from the residential area east of the sports fields. |
| MP7 | 27/04/22 – 05/05/22 | This position was located along a hedgerow well south of the Site approximately 60m north of Bonfire Hill. The microphone was mounted on a pole at 1.8m in height. The purpose of this position was to capture the noise levels originating from Bonfire Hill. |
| MPA | 27/04/22 | This position was located adjacent to the carpark at Christs Hospital train station. The microphone was mounted on a pole at a height of 1.8m. The purpose of this position was to capture |

| MP Number | Date of survey | Description / Purpose of measurement |
|---|---|---|
| | | background noise levels representative of nearby residential receptors.<br>Note – this measurement is not used for this application. Details have been included in case an assessment of additional car parking at Christ's Hospital Station is required at the reserved matters stage. |

10.4.3. **Volume 2, Appendix 10.4: Baseline Noise Survey** presents photographs of the noise monitors installed on the Site.

10.4.4. Historical online weather data for both surveys was analysed and for some periods wind speeds were above what would be considered ideal for monitoring. Further there were also some periods of rain.

10.4.5. As the measured baseline noise levels have been validated against baseline traffic data for 2024 within the noise model it is considered that whilst some brief periods may have been affected by adverse weather conditions, overall the data are suitable for the assessments within this chapter. Furthermore, as the ranges in measured noise level at each location have been utilised for the assessment at this stage, it has not been considered appropriate to remove any periods from the noise survey data. In any case, were the weather conditions to have caused increased noise levels, this would represent a worst-case situation for the assessment of the suitability of the Site which is presented in **Volume 2, Appendix 10.1: Site Suitability Assessment**.

10.4.6. **Table 10-10** provides a summary of the measured unattended noise levels.

**Table 10-10 - Summary of unattended noise survey results**

| Measurement position | Daytime average equivalent level, dB $L_{Aeq,16hr}$ | Daytime 10th percentile level, dB $L_{A10,18hr}$ | Night-time average equivalent level, dB $L_{Aeq,8h}$ | Night-time typical maximum event level, dB $L_{Amax,5min}$ |
|---|---|---|---|---|
| MP1 | 51 - 58 | 54 - 61 | 48 - 51 | 59 - 65 |
| MP2 | 58 - 61 | 61 - 64 | 49 - 53 | 65 - 68 |
| MP3 | 59 - 61 | 55 - 60 | 49 - 51 | 76 - 79 |
| MP4 | 64 - 66 | 69 - 71 | 55 - 59 | 76 - 79 |
| MP5 | 43 - 47 | 44 - 49 | 40 - 49 | 58 - 62 |
| MP6 | 47 - 49 | 48 - 51 | 41 - 45 | 60 - 64 |
| MP7 | 48 - 53 | 49 - 51 | 46 - 60 | 63 - 71 |

10.4.7. The noise levels provided are as follows:

- Daytime average equivalent level (dB $L_{Aeq,16hr}$) – Average noise level over the daytime period (07:00 – 23:00), for full periods only;
- Daytime 10th percentile level (dB $L_{A10,18hr}$) – Noise level exceeded for 10% of the time over the extended daytime period (06:00 – 00:00), for full periods only. This parameter is used for road traffic noise assessments;
- Night-time average equivalent level (dB $L_{Aeq,8hr}$) – Average noise level over the night-time period (23:00 – 07:00); and
- Night-time typical maximum event level (dB $L_{Amax,5min}$) – The 10th highest of the maximum event levels per five minutes over the night-time period (23:00 – 07:00). Maximum event levels are used for the assessment of the suitability of the Site for residential use which is presented in **Volume 2, Appendix 10.1: Site Suitability Assessment.** . The 10th highest of the maximum event noise levels is adopted as 'typical' in line with guidance within ProPG **(Ref. 10.16).**

10.4.8. As the Site is still in use as a working farm, and for security reasons, the noise monitoring equipment at a number of locations was installed very close to the boundary hedgerows. Given the time of the year, at a number of the locations the measurements were heavily influenced by the 'dawn chorus' (loud birdsong for a period before dawn) during the night-time period. This accounted for the elevated noise levels at night for some positions.

10.4.9. Whilst this is strictly part of the existing noise climate and some of the existing foliage will remain on the Site, and in other places will be replaced by new planting, these elevated periods have been selectively excluded from some of the assessments within this chapter as they were considered to unduly influence the measured levels and where this is the case this is discussed further below in paragraph 10.4.29.

10.4.10. **Table 10-11** presents the measured noise levels from the attended measurement at MPA at Christ's Hospital Station.

**Table 10-11 – Measured Noise Levels from MPA at Christ's Hospital Station**

| Time period | Background noise level, | Average equivalent noise level, |
|---|---|---|
| 06:00 – 07:00 | 47 dB $L_{A90,1hr}$ | 49 dB $L_{Aeq,1hr}$ |
| 07:00 – 09:00 | 49 dB $L_{A90,2hr}$ | 54 dB $L_{Aeq,2hr}$ |

10.4.11. During this attended survey, wind speeds were low and there was no precipitation.

## NOISE SURVEY VALIDATION

10.4.12. An attended noise survey was undertaken on 10th December 2025 to validate the existing noise level data obtained during the 2022 noise surveys.

10.4.13. Attended measurements were taken at four locations representative of MP1, MP2, MP3 and MP4 which were the positions in closest proximity to the A24, Two Mile Ash Road and Worthing Road.

10.4.14. At MP1, MP3 and MP4, the microphone was mounted on a tripod at a height of 1.5m. At MP2, the microphone was attached to a pole at a height of 3m so as to have a line of site above the elevated A24 road (as was the case for the 2022 measurements).

10.4.15. During this attended survey, wind speeds were low and there was no precipitation.

10.4.16. During the attended measurement at MP4, it was noted that tree felling was taking place on the eastern boundary of Worthing Road which heavily influenced noise levels at this location. The use of chainsaws dominated the surrounding noise climate in the absence of car passes on Worthing Road which accounted for the elevated noise levels at this position.

10.4.17. **Table 10-12** presents the noise survey results from MP1 and MP2 which adopted the shortened measurement procedure from CRTN.

**Table 10-12 – Results at MP1 and MP2**

| Measurement position | Average equivalent noise level LAeq, 1hr | 10th percentile level, dB LA10,1hr | 10th percentile level, dB LA10,3hr |
|---|---|---|---|
| MP1 | 53 | 54 | 53 |
| | 50 | 52 | |
| | 52 | 53 | |
| MP2 | 62 | 65 | 65 |
| | 62 | 65 | |
| | 62 | 65 | |

10.4.18. **Table 10-13** presents the noise survey results at MP3 and MP4.

**Table 10-13 – Results at MP3 and MP4**

| Measurement position | Time period | Average equivalent noise level $L_{Aeq,\ 15min}$ | 10th percentile level, dB $L_{A10,15min}$ |
|---|---|---|---|
| MP3 | 13:45 – 14:00 | 62 | 63 |
| MP4 | 14:15 – 14:30 | 74 | 78 |

10.4.19. **Table 10-14** presents the comparison of the results from the 2022 noise surveys and 2025 noise survey.

**Table 10-14 – Noise survey results comparison**

| Measurement position | 10th percentile level, dB $L_{A10,T}$ | | Average equivalent noise level, dB $L_{Aeq,\ T}$ | |
|---|---|---|---|---|
| | 2022 | 2025 | 2022 | 2025 |
| MP1 | 54 – 61 $L_{A10,18hr}$ | 52 $L_{A10,18hr}$[1] | 51 – 58 $L_{Aeq,16hr}$ | 50 – 53 $L_{Aeq,1hr}$ |
| MP2 | 61 – 64 $L_{A10,18hr}$ | 64 $L_{A10,18hr}$[1] | 58 – 61 $L_{Aeq,16hr}$ | 62 $L_{Aeq,1hr}$ |
| MP3 | 55 – 60 $L_{A10,18hr}$ | 63 $L_{A10,15min}$ | 59 – 61 $L_{Aeq,16hr}$ | 62 $L_{Aeq,15min}$ |
| MP4 | 69 – 71 $L_{A10,18hr}$ | 78 $L_{A10,15min}$ | 64 – 66 $L_{Aeq,16hr}$ | 74 $L_{Aeq,15min}$ |

Note [1] – The $L_{A10,18hr}$ values at MP1 and MP2 have been derived based on the shortened measurement approach in CRTN where 1 dB is subtracted from the measured $L_{A10,3hr}$ value.

10.4.20. The hourly results from the 2025 attended survey were compared with the equivalent hourly results from the 2022 surveys at the corresponding survey locations. The results at MP1, MP2 and MP3 in 2025 were in the range of the measured noise levels in 2022.

10.4.21. The noise levels at MP4 in 2025 were considerably higher than the range in 2022 due to local tree felling activity. Therefore, the higher noise levels measured in 2025 compared to 2022 are considered atypical and are excluded from this validation exercise.

10.4.22. In summary, the 2025 attended measurements validated well with the more extensive 2022 noise survey, thus demonstrating that the 2022 noise survey data remain valid. In any case, it is important to note that the noise levels used to assess the impact of noise from the Proposed Development and at future homes within the Proposed Development is predominantly based on noise modelling using forecast traffic data.

## NOISE MODELLING

10.4.23. As discussed above, the 2025 noise survey found that the noise climate on-Site remains similar to 2022 when the more extensive noise survey was undertaken. The noise model validation discussed in this section is therefore based on the 2022 noise survey data.

10.4.24. In order to understand the noise levels across the entire Site, rather than just at selected monitoring locations, a 3D computerised noise model has been constructed using the CadnaA software.

10.4.25. The noise model includes the following layers:

- Key surrounding roads;
- Topographical data in the form of LIDAR, and
- Existing buildings.

10.4.26. The noise model assumed a ground absorption coefficient of 1.0 (acoustically absorptive) given the predominantly rural land use. All buildings were set to be acoustically reflective.

10.4.27. Traffic flow data (number of heavy and light vehicles and vehicle speed) were provided for key roads by the project's transport consultants. Traffic data were provided for the baseline year of 2024.

10.4.28. These data were included in the noise model and noise levels calculated using the CRTN (**Ref. 10.3)** methodology. As the CRTN methodology predicts noise levels in terms of the dB $L_{A10,18hr}$, corrections are required in order to derive the daytime and night-time average equivalent noise levels in line with the BS 8233 (**Ref. 10.15**) criteria. In line with guidance within BS 8233, in order to calculate the daytime (07:00 – 23:00 hours) $L_{Aeq,16hr}$, 2 dB was subtracted from the predicted $L_{A10,18hr}$.

10.4.29. As the CRTN (**Ref. 10.3**) methodology only provides a method for predicting daytime impacts a similar conversion is required in order to derive the night-time dB $L_{Aeq,8hr}$ noise levels. In this case, it is most appropriate to utilise the measured noise levels and consider the relative differences between the daytime ($L_{Aeq,16h}$) and night-time ($L_{Aeq,8h}$). As discussed above, for some of the positions the night-time noise levels were influenced by the dawn chorus leading to high overall levels. As these elevated levels were only present for a brief period before dawn it has been considered inappropriate to include these within the comparison.

10.4.30. The measurements at positions MP1, MP2, MP3, MP4 and MP6 were less influenced by the dawn chorus and the average differential between each daytime and night-time noise level was 7 dB.

10.4.31. Therefore, this has been adopted within the noise modelling and a so the night-time noise levels ($L_{Aeq,8h}$) are predicted to be 7 dB less than the daytime ($L_{Aeq,16h}$) levels.

10.4.32. Measurements were undertaken at MP5 to be representative of the noise climate in areas of the Site away from the key road traffic sources. As the noise model predictions are based on road traffic only, other sources which contribute to the noise climate such as rustling leaves, farm vehicles and aircraft noise cannot be included in the model. Therefore, a background correction has been added to the model to reflect these other sources.

10.4.33. Noise model receivers have been added at each of the measurement locations in order to compare the measured levels with those predicted within the model. Apart from MP4 the predicted noise levels were within 1 dB of the range of measured (dB $L_{A10,18h}$) values. For Worthing Road adjacent to MP4, it is assumed that as discussed above, other sources were influencing the measured noise levels.

10.4.34. It is fairly standard for corrections such as these to be applied to a model, particularly for a large site such as this where noise levels vary considerably. Following the adjustments, the predicted noise levels (in terms of both the $L_{Aeq,16hr}$ and $L_{A10,18hr}$) are within the range of the measured levels at the majority of the measurement positions. Crucially, the noise model validated against the measured levels at MP1 and MP2, close to the A24 which is the dominant noise source affecting the majority of the Site.

10.4.35. **Figure 10-2** and **Figure 10-3** below present the daytime and night-time noise contour plots of the main Site area for the 2024 base scenario. The area of the site at Christ's Hospital is not included in the noise contour plots as no noise-sensitive uses are proposed in this area. The assessment of noise impacts from the proposed carpark are discussed further in **Section 10.6** below.

**Figure 10-2 – 2024 Baseline Daytime Noise Contour Map (dB $L_{Aeq,16hr}$ calculated at height of 1.5m)**

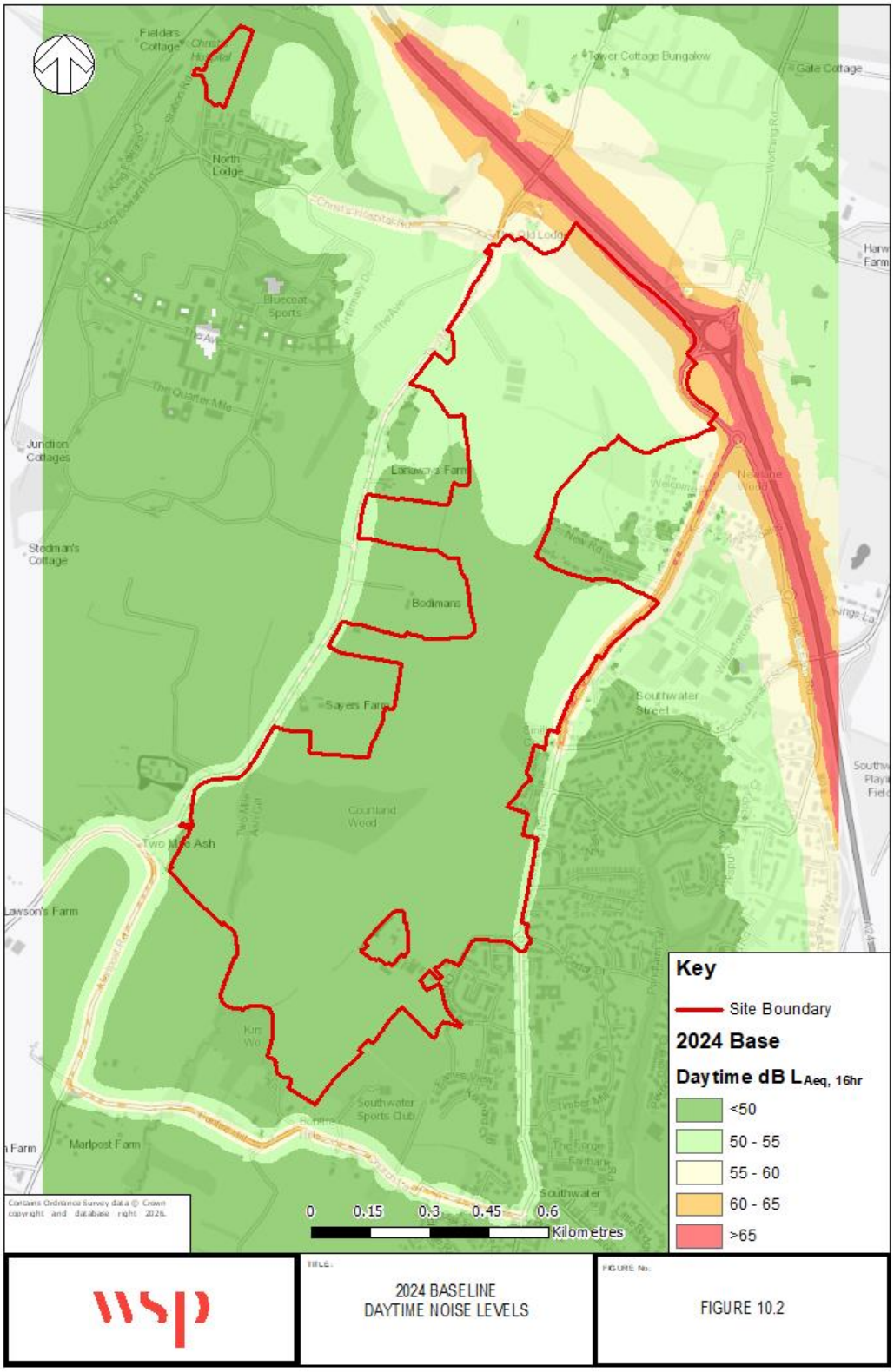
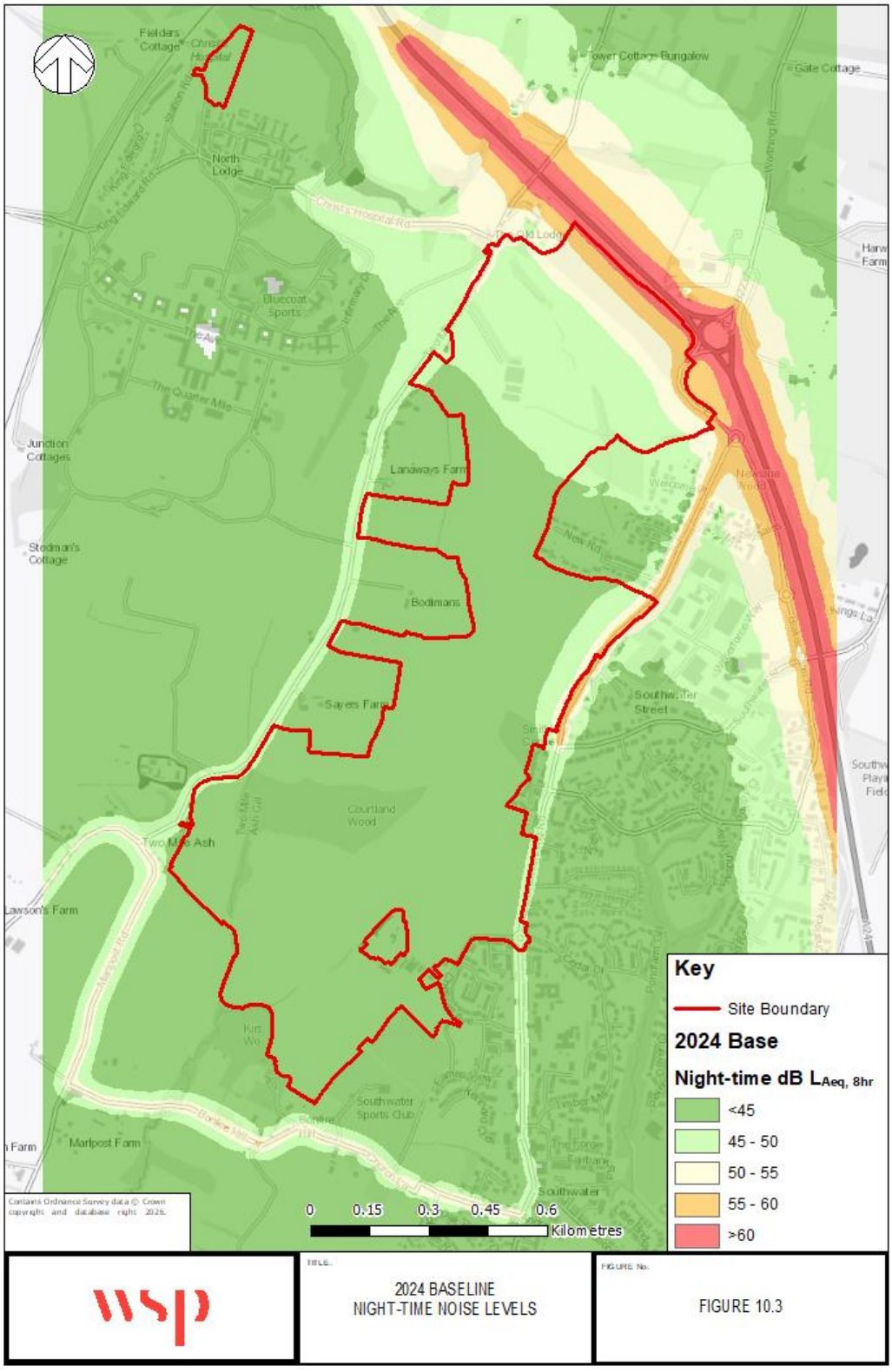


**Figure 10-3 – 2024 Baseline Night-time Noise Contour Map (dB $L_{Aeq,8hr}$ calculated at height of 4m)**



### FUTURE BASELINE

10.4.36. The existing noise climate across the Site is dominated by road traffic from various local roads and in particular the A24 to the north. Natural increases in road traffic over time are likely to result in increases in road traffic noise levels. However, as noise is measured using a logarithmic scale, large increases in traffic flow are required to cause noticeable increases in traffic flow.

10.4.37. The road traffic noise assessments within this chapter adopt a forecast baseline year of 2036[3] and therefore, a consideration of the future baseline is inherently included within these assessments.

## 10.5. SENSITIVE RECEPTORS

10.5.1. As there are a large number of potentially sensitive receptors surrounding the site, the construction noise and vibration assessment will focus on sample receptors representative of community areas.

10.5.2. The following sensitive receptors have been assessed:

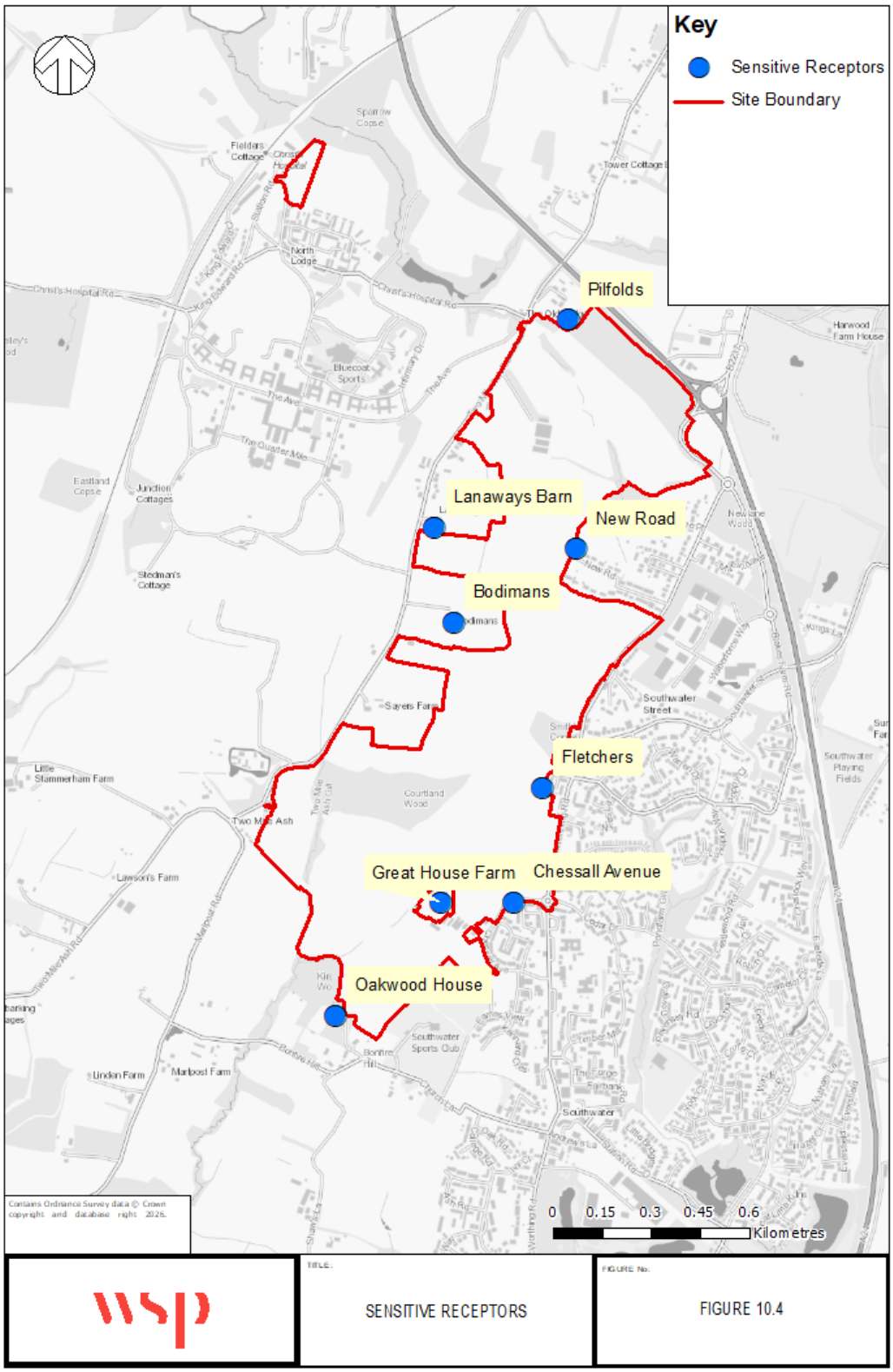
- Residential properties to the east of the Main Site in Southwater on Worthing Road and surrounding minor roads;
- Isolated residential properties surrounding Great House Farm at the south east of the Main Site;
- Isolated residential properties to the south of the Main Site off Bonfire Hill;
- Isolated residential properties to the west of the Main Site off Two Mile Ash Road and Marlpost Road; and
- Residential properties to the south and west of the smaller area of the site at Christ's Hospital.

10.5.3. All key sensitive receptor locations in relation to noise and vibration are shown on **Figure 10-4**.

10.5.4. The assessment of noise affecting sensitive receptors within the Proposed development is presented in **Appendix 10.1 Site Suitability Assessment**.

[3] A full explanation of why 2036 was chosen is provided in **Volume 2, Appendix 12.1: Transport Assessment**.

**Figure 10-4 - Sensitive Receptors**



## 10.6. ASSESSMENT OF POTENTIAL EFFECTS, MITIGATION AND RESIDUAL EFFECTS

### CONSTRUCTION PHASE

#### Construction Noise

10.6.1. Noise levels have been calculated at key sample receptors based on the three main stages of construction works which are assumed to be:

- Site clearance and foundations;
- Building construction; and
- Landscaping and access roads.

10.6.2. The Proposed Development will be constructed in a number of phases (up to 6 phases), meaning different areas of the Site will be the focus of construction activity at different times. However, this assessment focuses on those receptors closest to the boundary of the Site, which are most likely to be adversely affected by construction noise, rather than assessing construction noise on a phase-by-phase basis. It should be noted that if any areas of the Proposed Development are occupied prior to the completion of the construction works, these receptors have the potential to be adversely affected by noise from construction activities still on-going in different areas of the Site. Given the current phasing is not yet confirmed, the construction mitigation measures presented in this chapter should be applied where construction activities are being undertaken close to occupied dwellings that form part of the Proposed Development as well as existing receptors.

10.6.3. Worst and average case noise levels have been predicted for each stage of work at the closest receptors to the Site. For the worst-case scenario, it has been assumed that a single item of each of the plant listed in **Volume 2, Appendix 10.3 Construction Plant Assumptions** is operating at the closest point within the Site to each receptor. Any duplicate plant is assumed to be operating at a distance of 150m, unless the likely work location is further than 150m, in which case this distance has been used.

10.6.4. For the average case scenario, the full complement of plant listed is assumed to be operating at a distance of 150m, unless the likely work location is further than 150m, in which case this distance has been used. Given the size of the Site, it is likely that for much of the time construction works will occur at far greater distances to receptors and this is therefore a robust, average case assumption. For both scenarios, the predicted noise levels are based on the following assumptions, which represent a generally robust assessment:

- Noise propagation is hemispherical, with no obstructions between the source and the receiver;
- The intervening ground between the construction noise source and the relevant noise sensitive property is acoustically absorptive;
- There is no attenuation from atmospheric absorption;
- The predicted noise levels are those under neutral weather conditions; and
- The predicted noise levels are façade levels at a height of 1.5m (assuming ground floor height given the predictions are for the daytime period).

10.6.5. Construction noise calculations have been undertaken at the following sample receptors (as shown on **Figure 10.4** above). These calculations are deemed likely to be representative of the impacts at other existing nearby receptors[4]:

- Pilfolds;
- New Road;
- Fletchers;
- Great House Farm;
- Oakwood House;
- Bodimans; and
- Lanaways Barn.

10.6.6. The predicted façade noise level for the worst and average case scenarios are presented in **Table 10-15.**

**Table 10-15 - Predicted construction noise levels at nearby receptors**

| Receptor | Site Clearance and Foundations | | Building Construction | | Landscaping Access Roads | |
|---|---|---|---|---|---|---|
| | WC, dB $L_{Aeq,10/5hr}$ | AVG, dB $L_{Aeq,10/5hr}$ | WC, dB $L_{Aeq,10/5hr}$ | AVG, dB $L_{Aeq,10/5hr}$ | WC, dB $L_{Aeq,10/5hr}$ | AVG, dB $L_{Aeq,10/5hr}$ |
| Plifolds | 75 | 59 | 67 | 52 | 77 | 59 |
| New Road | 80 | 59 | 71 | 52 | 82 | 59 |
| Fletchers | 80 | 59 | 73 | 52 | 82 | 59 |
| Great House Farm | 73 | 59 | 61 | 52 | 75 | 59 |
| Oakwood House | 73 | 59 | 52 | 52 | 75 | 59 |
| Bodimans | 65 | 59 | 52 | 52 | 66 | 59 |
| Lanaways Barn | 77 | 59 | 51 | 51 | 79 | 59 |

WC – Worst-case

AVG – Average case

10.6.7. **Table 10-16** presents the corresponding magnitudes of impact at each receptor.

[4] Chessall Avenue has not been assessed as it is considered likely the impacts will be fairly similar to those predicted at Fletchers.

**Table 10-16 – Predicted construction noise magnitudes of impact**

| Receptor | Site Clearance and Foundations | | Building Construction | | Landscaping Access Roads | |
|---|---|---|---|---|---|---|
| | WC | AVG | WC | AVG | WC | AVG |
| Plifolds | Major (s) | Negligible | Moderate (s) | Negligible | Major (s) | Negligible |
| New Road | Major (s) | Negligible | Major (s) | Negligible | Major (s) | Negligible |
| Fletchers | Major (s) | Negligible | Major (s) | Negligible | Major (s) | Negligible |
| Great House Farm | Major (s) | Negligible | Minor | Negligible | Major (s) | Negligible |
| Oakwood House | Major (s) | Negligible | Negligible | Negligible | Major (s) | Negligible |
| Bodimans | Moderate (s) | Negligible | Moderate (s) | Negligible | Moderate (s) | Negligible |
| Lanaways Barn | Major (s) | Negligible | Negligible | Negligible | Major (s) | Negligible |

WC – Worst-case

AVG – Average case

Cells highlighted red and marked with '(s)' indicate impacts which are potentially significant.

10.6.8. As it has been assumed that activities associated with the site clearance and foundations, and landscaping and access roads could occur anywhere within the Site Boundary, unsurprisingly major / moderate adverse impacts are predicted for all receptors for these activities in the worst-case scenario. Further, moderate or major adverse impacts are anticipated at Pilfolds, New Road, Fletchers and Bodimans, for the building construction activity during the worst-case scenario.

10.6.9. Therefore, during the worst-case scenario significant adverse construction noise effects of moderate or major magnitude are anticipated at all receptors for at least two activities.

10.6.10. However, during the average case scenario, which for the majority of the time is a more relevant situation, negligible not significant effects are anticipated at all receptors.

10.6.11. Given the significant effects anticipated during the worst-case scenario, mitigation measures are set out below.

**Construction Vibration**

10.6.12. At this stage, it is understood that piling will not be required for the majority of the Site. Where possible, any required piling should be of the 'bored' variety (e.g. continuous flight auger), which generates less vibration (and noise) than percussive piling, but can generate some vibration locally especially where casings are required.

10.6.13. It is therefore proposed that, in the first instance and at the appropriate time, a screening exercise is undertaken to consider the requirement for a further assessment once more detailed information on the piling equipment and their likely location are available.

10.6.14. Any vibratory rollers for compacting the ground will also generate vibration. If such plant is required on the Site, no significant adverse effects are anticipated where the rollers are deployed away from sensitive receptors. However, should such plant be used in close proximity to sensitive receptors, vibration might be perceived, and if this occurs over extended periods of time, some disturbance could arise.

10.6.15. It is anticipated that vibration levels of greater than 1mms$^{-1}$ (equivalent to an adverse impact of moderate magnitude, which is a significant effect) will only be generated at distances closer than 25m to the nearest sensitive receptors[5]. Given the proximity of the Site to some nearby receptors it is therefore considered that significant adverse vibration effects could occur.

10.6.16. The levels of vibration that could damage buildings are an order of magnitude above those which are likely to disturb. Consequently, it is extremely unlikely that any building damage, even of a cosmetic nature, would arise even if the vibratory rollers were to be in operation on the edge of the Site close to existing dwellings.

**Construction Phase Mitigation**

10.6.17. As the predicted noise and vibration levels indicate that significant adverse effects could occur at nearby receptors, mitigation measures need to be considered.

10.6.18. Best practicable means (BPM) as defined in the CoPA **(Ref. 10.9)** should be adopted throughout the construction works. The most relevant and specific commitments with respect to construction noise and vibration are set out below:

- the contractors should bring to the Site and employ only the most environmentally acceptable plant and equipment compatible with the safe and efficient execution of the works;
- all plant items should be properly maintained and operated according to manufacturers' recommendations and in such a manner as to avoid causing excessive noise and vibration;
- all plant items should be sited so that noise and vibration at nearby sensitive properties is minimised;
- all plant items operating intermittently on the Site should be shut down in the intervening periods;
- all pneumatic tools should be fitted with silencers or mufflers where practicable;
- no radios or music should be played on the Site;

[5]Assumes a roller with 2 drums, 0.4 mm amplitude and a drum width of 1.3 m, e.g. small ride on roller. The calculation incorporates a 5% chance of exceeding the criterion and is applicable to the start up and run down of machinery. During steady state operation, vibration levels would be lower.

- wherever possible, dead-weight rollers will be used rather than vibratory rollers / compactors;
- deliveries will be programmed to arrive during daytime hours only and care will be taken to minimise noise during unloading. Delivery vehicles will be routed so as to minimise disturbance to local residents and will be prohibited from waiting on the highway or within the works Site with their engines running;
- wherever possible vibratory rollers should not be started or stopped within 25m of residential receptors;
- construction related vehicles should not idle on local roads waiting to enter the Site; and
- the importance of noise and vibration and their potential to affect those living and working nearby will be included in the general induction training for the Site and specific training will be given to staff who will have particular responsibility for managing noise during construction.

10.6.19. A Construction Environmental Management plan (CEMP) will be produced for the Proposed Development which will include the above measures (and any others deemed necessary by the contractor at a later stage). It is expected that this will be conditioned by HDC.

10.6.20. It is often the case that noise disturbance from construction works can be avoided by taking a considerate and neighbourly approach to relations with the local neighbours. Therefore, prior to the commencement of construction works, formal contact will be established with the nearest neighbours and those who are most likely to be affected by the works. Contact with the neighbours and the general public throughout the construction programme will be pro-actively maintained.

10.6.21. In addition to the above measures, it is recommended that a 2.4m high solid hoarding is installed where construction activities are undertaken close to residential receptors. This will provide some screening of the on-site construction activities at the ground floor of nearby sensitive receptors and so potentially reduce noise levels further. However, depending on the local topography this may have limited benefit to elevated or first floor receptors. Therefore, in order to present the robust assessment case, no screening from the hoarding has been accounted for in this assessment.

**Construction Phase Residual Effects**

**Construction Noise**

10.6.22. As identified in **Table 10-16**, high noise levels are anticipated at receptors close to the Site during the site clearance and foundations, and landscaping and access road construction activities for the worst-case scenario.

10.6.23. For the majority of the time, however, it is likely that construction noise levels will be lower than this. Given the size of the Site and the timing of the various construction phases, the above worst-case calculations assume that construction work is being undertaken in the area of the Site closest to the receptor. Therefore, it is likely that for much of the construction period, noise levels will be lower than those predicted above as construction work is undertaken at greater distances from the nearby receptors.

10.6.24. Even the average case scenario is somewhat worst-case as it is likely that for much of the construction phase, activities will be undertaken at distances greater than 150m from nearby receptors.

10.6.25. Therefore, for limited periods during the worst-case scenario, when construction works are occurring closest to the nearby receptors, significant adverse construction noise effects of moderate or major magnitude are anticipated at all nearby receptors.

10.6.26. However, during the average case scenario, which will occur for the vast majority of the construction period not significant impacts of negligible magnitude are anticipated at all surrounding receptors.

**Construction Vibration**

10.6.27. It is noted above that a more detailed construction vibration assessment may be required once further details are available regarding the requirement for, and method of, any piling works. However, it is anticipated that the majority of the Site will adopt traditional foundations that do not require piling.

10.6.28. As included in the mitigation measures above, provided vibratory rollers are not started or stopped within 25m of residential receptors, it is anticipated that the vibration effects would be no greater than minor adverse (i.e. not significant).

10.6.29. BNLs for each road link are presented in **Volume 2, Appendix 10.5: Predicted BNLs**.

## OPERATIONAL PHASE

**Development Generated Road Traffic Noise**

**Potential Effects**

10.6.30. This section considers the noise levels likely to arise at existing receptors due to development generated road traffic on the existing wider road network. As potentially affected receptors are currently exposed to a certain level of transportation noise, it is the difference or change in noise levels that is important when assessing the significance of effects.

10.6.31. Traffic data have been provided for key roads surrounding the Site and the assessment of noise level change has been undertaken for three comparisons as follows:

- Comparison 1 – 2024 Baseline vs 2036 with the Proposed Development; and
- Comparison 2 – 2036 without the Proposed Development vs 2036 with the Proposed Development

10.6.32. The predicted noise level change, in terms of the BNL for each road link, along with the associated magnitude of impact for each comparison is presented in **Table 10-17**. The predicted BNLs for each road link are presented in **Volume 2, Appendix 10.5: Predicted BNLs**.

**Table 10-17 – Wider network road traffic noise level changes**

| Link Number | One Way / Two-Way | Name | Comparison 1 | | Comparison 2 | |
|---|---|---|---|---|---|---|
| | | | Noise Level Change, dB | Magnitude of Impact | Noise Level Change, dB | Magnitude of Impact |
| 3820-3586 | 1 | A24 SB south of Hop Oast RAB | 0.8 | Negligible | 0.0 | Negligible |
| 3820-3814 | 1 | Hop Oast RAB | 0.6 | Negligible | 0.3 | Negligible |
| 3588-3814 | 1 | A24 NB south of Hop Oast RAB | 2.6 | Negligible | 0.0 | Negligible |
| 3814-3818 | 1 | Hop Oast RAB | 1.0 | Negligible | 0.1 | Negligible |
| 3824-3820 | 1 | Hop Oast RAB | 0.8 | Negligible | 0.1 | Negligible |
| 3818-3822 | 1 | Hop Oast RAB | 1.1 | Negligible | 0.0 | Negligible |
| 3828-3824 | 1 | Hop Oast RAB | 1.0 | Negligible | 0.1 | Negligible |
| 3834-3824 | 1 | Worthing Road SB north of Hop Oast RAB | -0.4 | Negligible | -0.2 | Negligible |
| 3832-3828 | 1 | Hop Oast RAB | 1.3 | Negligible | 0.0 | Negligible |
| 8270-3832 | 1 | A24 SB north of Hop Oast RAB | 1.0 | Negligible | 0.1 | Negligible |
| 3822-3832 | 1 | Hop Oast RAB | 0.7 | Negligible | 0.0 | Negligible |
| 3828-3834 | 1 | Worthing Road NB north of Hop Oast RAB | 2.0 | Negligible | -0.1 | Negligible |
| 8206-8202 | 1 | A24 SB north of Hop Oast RAB | 0.9 | Negligible | 0.1 | Negligible |
| 8210-8202 | 1 | A24 SB slip road north of Hop Oast RAB | 1.9 | Negligible | 0.1 | Negligible |

| Link Number | One Way / Two-Way | Name | Comparison 1 | | Comparison 2 | |
|---|---|---|---|---|---|---|
| | | | Noise Level Change, dB | Magnitude of Impact | Noise Level Change, dB | Magnitude of Impact |
| 8356-8203 | 1 | A24 NB north of Hop Oast RAB | 1.2 | Negligible | 0.2 | Negligible |
| 8203-8205 | 1 | A24 NB north of Hop Oast RAB | 1.3 | Negligible | 0.2 | Negligible |
| 8203-8214 | 1 | A24 NB slip road north of Hop Oast RAB | 1.0 | Negligible | 0.1 | Negligible |
| 8202-8270 | 1 | A24 SB north of Hop Oast RAB | 1.3 | Negligible | 0.1 | Negligible |
| 3822-8288 | 1 | A24 NB north of Hop Oast RAB | 1.2 | Negligible | 0.0 | Negligible |
| 8287-8288 | 1 | RAB slip one way | 1.6 | Negligible | 0.5 | Negligible |
| 8288-8289 | 1 | A24 NB north of Hop Oast RAB | 0.9 | Negligible | 0.1 | Negligible |
| 8289-8356 | 1 | A24 NB north of Hop Oast RAB | 0.9 | Negligible | 0.1 | Negligible |
| 3614-3398 | 2 | Shipley Road | 1.9 | Negligible | 0.1 | Negligible |
| 3614-3584 | 2 | Mill Straight | 1.2 | Negligible | 0.1 | Negligible |
| 3678-3614 | 2 | Worthing Road south of Hop Oast RAB | 0.9 | Negligible | 0.3 | Negligible |
| 11019-3678 | 2 | Church Lane | 1.2 | Negligible | -2.2 | Minor Beneficial |
| 11019-3742 | 2 | Church Lane | 2.0 | Negligible | -1.4 | Minor Beneficial |
| 11002-3846 | 2 | Two Mile Ash Road | 3.8 | Minor Adverse | 0.4 | Negligible |
| 10219-3678 | 2 | Worthing Rd (South of Chessall Avenue) | 8.8 | Moderate Adverse | 6.9 | Major Adverse |

| Link Number | One Way / Two-Way | Name | Comparison 1 | | Comparison 2 | |
|---|---|---|---|---|---|---|
| | | | Noise Level Change, dB | Magnitude of Impact | Noise Level Change, dB | Magnitude of Impact |
| 10219-3758 | 2 | Worthing Rd (South of Southwater Street) | 2.8 | Negligible | 0.9 | Negligible |
| 3742-3712 | 2 | Two Mile Ash Road | 3.2 | Minor Adverse | 0.1 | Negligible |
| 11002-3742 | 2 | Two Mile Ash Road | 2.9 | Negligible | -2.6 | Minor Beneficial |
| 11000-10211 | 2 | Worthing Rd (North of Southwater Street) | 1.0 | Negligible | 1.2 | Minor Adverse |
| 10211-3758 | 2 | Worthing Rd (North of Southwater Street) | -1.6 | Negligible | -1.4 | Minor Beneficial |
| 11000-8287 | 2 | Worthing Rd (North of Southwater Street) | 4.9 | Minor Adverse | 2.5 | Minor Adverse |
| 3768-3758 | 2 | Southwater Street | 4.1 | Minor Adverse | 0.8 | Negligible |
| 8287-3818 | 2 | Worthing Rd (North of Southwater Street) | 0.1 | Negligible | 0.4 | Negligible |
| 3890-3834 | 2 | Worthing Road north of Hop Oast RAB | 0.8 | Negligible | -0.1 | Negligible |
| 3854-3846 | 2 | Christ's Hospital Road | 5.2 | Moderate Adverse | 2.9 | Minor Adverse |
| 3890-3846 | 2 | Two Mile Ash Road north of Christ's Hospital Road) | 3.4 | Minor Adverse | 0.5 | Negligible |

RAB – Roundabout
NB – Northbound
SB - Southbound

10.6.33. Generally, the impacts associated with Comparison 1 are greater than Comparison 2 due to the long-term comparison which also accounts for the natural increase in vehicles on surrounding roads over time, not as a direct result of the Proposed Development.

10.6.34. As set out in the Transport Assessment **(Volume 2, Appendix 12.1)**, the transport modelling does not include specific mitigation associated with the A24 corridor study which West Sussex County Council (WSCC) are expected to progress in 2026 which will deliver additional capacity with the aim of relieving traffic on the rural roads surrounding the Proposed Development. Furthermore, the strategic nature of the model is not able to fully reflect some of the traffic calming measures being promoted by the Proposed Development that would further aid in reducing traffic along the rural lanes. As such it is likely that in reality, the impacts for Comparison 1 (2024 Baseline vs 2036 with the Proposed Development) will not be as high as predicted. As Comparison 1 includes general traffic growth, it is more appropriate to determine significance based on Comparison 2, which is based on the 2036 without the Proposed Development vs 2036 with the Proposed Development traffic flows, and thus, includes contributions from the proposed Development only.

10.6.35. Only Worthing Road (south of Southwater Street) is expected to experience a noise level change considered significant under Comparison 2. The major noise level change on Worthing Road (South of Chessall Avenue) for Comparison 2 is unlikely to occur in reality. The nature of the traffic modelling means that the Secondary Access Road results in a new traffic link at Chessall Avenue, which is not present in the 2036 without the Proposed Development scenario. This additional link results in the loading of vehicles not associated with the Proposed Development at Chessall Avenue, heading South on Worthing Road, instead of at Church Lane. In the 2036 without the Proposed Development scenario on Worthing Road (south of Chessall Avenue), the two-way AAWT flow is 1799, however, in the 2036 with Proposed Development, the two-way AAWT flow is 7399, thus resulting in the major noise level change. However, the transport consultants have advised that the two-way AAWT traffic flow from the Proposed Development south of Chessall Avenue is only 328. Therefore, the majority of the additional vehicles resulting in the major noise level change are not associated with the Proposed Development and are likely present in the without Proposed Development scenarios, although this is not reflected in the traffic modelling.

10.6.36. On this basis, it is considered that the major noise level change is as a result of a quirk of the traffic modelling only associated with this link, and would not be realised in reality. As such, the noise level change on Worthing Road (South of Chessall Avenue) is not anticipated to result in a significant effect.

### Mitigation Measures

10.6.37. As significant effects are not anticipated from road traffic noise on the wider road network associated with the Proposed Development, mitigation measures are not required.

10.6.38. The Transport Assessment **(Volume 2, Appendix 12.1)** includes details of off-site highway measures to mitigate the impact of additional vehicles associated with the Proposed Development.

### Residual Effects

10.6.39. Residual **non-significant** effects are anticipated at receptors fronting the roads surrounding the Site as a result of road traffic noise level **changes.**

### Noise from the Primary Road and Secondary Road

#### Potential Effects

10.6.40. Noise level predictions have been undertaken using traffic data provided by the project's transport consultants. Data has been linked to the indicative alignments for the Primary Road and Secondary Road, which has been incorporated into the noise model. The assessment is based on a comparison of traffic data for the forecast baseline year 2036 both with and without the Proposed Development.

10.6.41. Predictions have been undertaken at selected key receptors which are considered likely to be most affected by noise from the Primary Road and Secondary Road. These receptors are considered representative of those nearby which would likely be similarly impacted and are as follows:

- New Road;
- Fletchers;
- Chessall Avenue; and
- Great House Farm.

10.6.42. **Table 10-18** presents the predicted noise levels for both assessment scenarios, along with the noise level change and magnitude of impact. Noise levels have been calculated at the façade of the building facing the Primary Road and Secondary Road, which represents a worst-case assessment. In line with DMRB LA 111 noise levels have been calculated at a height of 4.0m.

**Table 10-18 - Predicted noise level changes resulting from the Primary and Secondary Road**

| Receptor | 2036 Without Proposed Development, dB $L_{A10,18hr}$ (façade) | 2036 With Proposed Development, dB $L_{A10,18hr}$ (façade) | Noise level change, dB | Magnitude of Impact |
|---|---|---|---|---|
| New Road | 54.8 | 57.5 | 2.7 | Minor Adverse |
| Fletchers | 52.4 | 53.0 | 0.6 | Negligible |
| Chessall Avenue | 52.8 | 62.9 | 10.1 | Major Adverse (S) |
| Great House Farm | 52.2 | 52.8 | 0.6 | Negligible |
| Cells highlighted red and marked with '(S)' indicate impacts which are potentially significant. | | | | |

10.6.43. As discussed in paragraph 10.2.42, DMRB LA 111 (**Ref. 10.4**) allows for consideration of both numerical and contextual factors prior to the consideration of whether a particular receptor is anticipated to experience a significant effect.

10.6.44. DMRB LA 111 advises that an initial estimation of significance should be undertaken, based on the predicted short-term noise level change only. It states that negligible and minor impacts would be considered likely to be not significant, and moderate and major impacts would be considered likely

to be significant. A consideration of other numerical and contextual factors should then be undertaken in order to determine the final significance of effect at a particular receptor.

10.6.45. The noise model does not include any screening from future buildings that will form part of the Proposed Development. Therefore, for some of the receptors (New Road and Fletchers in particular) in reality, noise levels from the Primary and Secondary Road will be less than those predicted due to the screening afforded by future homes on the Site.

10.6.46. At this outline stage, the noise model does not include any landscaping or earthworks associated with the main access road. Landscaping and earthworks have the potential to increase or decrease noise levels depending on whether the road is in cutting or on embankment and the surrounding topography.

10.6.47. As the Proposed Development will be constructed in phases, there will be a gradual increase in traffic using the main access road from the first occupation of the Proposed Development until all the future homes have been constructed. Therefore, surrounding receptors will experience the noise level changes gradually rather than experiencing them as a step change as the numerical assessment predicts.

10.6.48. There are a number of additional contextual factors which are relevant for the anticipated impact at Chessall Avenue which should be considered prior to the determination of significance.

10.6.49. Firstly, because of the way the traffic model is structured, Chessall Avenue is not accurately represented in the 2036 Without the Proposed Development scenario. This issue partly arises because the traffic model was developed before the construction of the Broadacres Development, which is also accessed from Chessall Avenue. In the With Proposed Development scenario, the model estimates an 18-hour two-way AAWT flow of 3,151 vehicles on this link. When compared to the low flows in the 2036 Without Proposed Development scenario, has resulted in the major noise level change.

10.6.50. To establish a more reliable baseline for traffic on Chessall Avenue, reflecting what was approved for Broadacres under its planning application, WSP transport consultants reviewed the Transport Assessment for application DC/14/0590 (approved in 2015 for up to 540 houses and 54 apartments). Using consistent AAWT factors, the transport consultants determine that Chessall Avenue was anticipated to carry about 3,800 two-way trips linked to the Broadacres Development.

10.6.51. Secondly, the Broadacres development is still not fully complete and therefore there is some uncertainty in the future baseline traffic flow on Chessall Avenue.

10.6.52. In summary, if the future baseline traffic flow on Chessall Avenue is similar to the two-way 3,800 AAWT flow, it is likely that the noise level change between the with and without Proposed Development traffic flows would be much lower than currently predicted.

10.6.53. As the Secondary Road is proposed in outline only at this stage, there is the potential for traffic calming mitigation measures to be adopted, which could reduce traffic flows on this road, to the betterment of noise levels on Chessall Avenue.

10.6.54. Noise levels at Chessall Avenue are also anticipated to be below the SOAEL which, in policy terms, means that significant adverse effects on health and quality of life would not occur at residential receptors in this area.

10.6.55. On the basis of the above, considering the precautionary noise modelling, there is the potential for a significant adverse effect to occur at Chessall Avenue from the Secondary Road. However, based on the above contextual factors, the effect should be downgraded from major to moderate magnitude. In reality, should the traffic flow on Chessall Avenue in the 2036 without the Proposed Development scenario be similar to the 3,800 two-way AAWT flow identified above, it is likely that the effect would be non-significant in EIA terms. Given this uncertainty, it is recommended that a condition is included in the planning consent to require a more detailed assessment of noise from the Secondary Road at the reserved matters stage.

### Mitigation

10.6.56. As discussed above, traffic mitigation measures are available which could reduce road traffic noise levels on the Primary Road and Secondary Road. One option being considered is a road speed of 20mph on the Secondary Road, which would reduce the traffic using Chessall Avenue from the 3151 two-way AAWT adopted for this assessment. However, as these roads are in outline only at this stage, detailed specification of mitigation measures will be considered at the reserved matters stage.

### Residual Effects

10.6.57. Based on the precautionary noise modelling, there is the potential for a significant adverse effect of moderate magnitude to occur at Chessall Avenue from the Secondary Road. However, based on the above contextual factors, the effect should be downgraded from major to moderate magnitude. In reality, if Chessall Avenue were more accurately reflected in the 2036 without the Propose Development traffic modelling, it is likely that the effect would be non-significant in EIA terms at nearby receptors. Given this uncertainty, it is recommended that a condition is included in the planning consent to require a more detailed assessment of noise from the Secondary Road at the reserved matters stage.

**Noise from Employment Land**

10.6.58. As discussed in **Section 10.2** above, given the level of detail available at this stage a quantitative assessment cannot be undertaken. However, based on the current information it is anticipated that the following could lead to adverse noise impacts:

- If large amounts of building services plant are required;
- If external service yards including unloading or loading of vehicles and other similar activities are required;
- If large numbers of heavy duty vehicles (HDVs) access the area; and
- If inherently noisy uses are proposed (i.e. car workshops).

10.6.59. In order to limit the likelihood of disturbance from any of the above, or any other noise sources associated with the employment land, the following should be considered as the design of this area evolves:

- If possible, buildings should be orientated such that they provide screening from noise sources to nearby receptors;
- Acoustic barriers or earthworks could be installed to provide screening to residents;
- The commercial businesses should be orientated such that those likely to generate the highest noise levels are located at the greatest distances from nearby receptors; and

- The operating hours of businesses undertaking noise generating activities could be controlled to limit disturbance to nearby receptors.

10.6.60. Until a detailed assessment has been undertaken, there is the potential for significant adverse noise effects as a result of the commercial / industrial uses within the employment land area, however, if the above design and mitigation measures are successfully adopted, significant adverse effects could be avoided.

10.6.61. A detailed quantitative noise assessment will need to be undertaken at the reserved matters stage once further information is available regarding the future uses of the employment land.

**Noise from Sports Pitches**

10.6.62. As discussed in **Section 10.2** above, given the level of detail available at this stage, and the outline nature of the application, a quantitative assessment cannot be undertaken. However, given the proximity of nearby receptors a risk-based qualitative assessment has been undertaken at this stage.

10.6.63. The proposed sports pitches will be natural grass, with no floodlights and so will not be used into the evening period year-round. Community facilities such as this are less likely to result in significant noise impacts than commercial facilities with a more focussed offering (i.e. five-a-side football pitches) which can be used extensively at weekends and during the evenings.

10.6.64. Given the nature of the proposed pitches, it is unlikely that significant effects would occur on nearby receptors. It is recommended that the need for a noise assessment is reviewed at the Reserved Matters stage, when detailed plans for the pitches are available.

**ASSESSMENT AGAINST FUTURE BASELINE**

10.6.65. As discussed in paragraph 10.4.37, future baseline is inherently considered within the road traffic noise assessments in this chapter. The remainder of the assessments within this chapter are considered worst-case in that, should the baseline noise levels increase over time, the magnitude of any noise level change diminishes in comparison with the enhanced baseline.

## 10.7. OPPORTUNITIES FOR ENVIRONMENTAL ENHANCEMENT

10.7.1. Whilst not an enhancement directly linked to the Proposed Development, it should be noted that the expected increase in electric vehicles in the near future may reduce road traffic noise levels in the vicinity of the Proposed Development. The degree to which road traffic noise levels may be reduced is dependent on vehicle speeds and is likely to be limited, at least in the short term, to smaller vehicles (the transition from combustion engine to electric motor for larger vehicles such as HDVs, is not anticipated to take place as quickly as has been the case for cars).

## 10.8. DIFFICULTIES AND UNCERTAINTIES

10.8.1. The construction noise predictions are based on the source data presented in **Volume 2, Appendix 10.3: Construction Plant Assumptions**. The actual plant that is ultimately employed and the respective on-times may well differ from those used in this assessment, although this will only be known once a contractor has been appointed, which will be after the planning process is completed. The construction source data presented within this chapter are, therefore, indicative only.

10.8.2. The Primary Road and Secondary Road noise assessment is based on an indicative alignment. Therefore, the predicted noise levels are themselves only indicative at this stage. A further detailed assessment may be required once the final alignment is available.

10.8.3. The noise modelling is based on an undeveloped Site. Once the Proposed Development is built-out, the screening provided by the proposed buildings within the Site will likely mean that noise levels are lower than predicted for this assessment within the Site

10.8.4. Given the limited information available at this stage, it has not been possible to undertake quantitative assessments of noise from the sports pitches or employment land. However, it is anticipated that these will require assessment at the reserved matters stage.

## 10.9. SUMMARY

10.9.1. **Table 10-19** provides a summary of the findings of the assessment.

**Table 10-19 - Summary of noise and vibration effects**

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Construction Phase** | | | | | |
| Sample residential receptors surrounding the Site | Construction noise effects from on-site activities (worst-case scenario) | **Moderate/Major Adverse (significant)** T / D / ST | BPM mitigation to be applied site wide. 2.4m site hoarding to be installed when works are undertaken close to residential receptors | **Moderate/Major Adverse (significant)** T / D / ST | None required |
| Sample residential receptors surrounding the Site | Construction noise effects from on-site activities (average scenario) | **Negligible (not significant)** T / D / ST | BPM mitigation to be applied site wide. 2.4m site hoarding to be installed when works are undertaken close to residential receptors. | **Negligible (not significant)** T / D / ST | None required |
| Receptors within 25m of vibratory rolling construction activity | Construction vibration effects from on-site activities | **Moderate/Major Adverse (significant)** T / D / ST | Vibratory rollers not to be started or stopped within 25m of residential receptors | **Minor Adverse (not significant)** T / D / ST | None required |
| **Operational Phase** | | | | | |
| Residential receptors fronting the | Development generated road traffic noise effects | **Non-Significant** P / I / LT | None | **Non-Significant** P / I / LT | None required |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| surrounding road network | | | | | |
| Receptors at Chessall Avenue | Noise from Secondary Road | **Major Adverse (significant)**<br>P / D / LT | Traffic mitigation measures to be considered (such as 20mph road design speed) at reserved matters stage for the Secondary Road in order to reduce noise levels at Chessall Avenue. | **Moderate Adverse (significant)**<br>P / D / LT | None required |

Key to table:

**P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable**

## 10.10. REFERENCES


- **Reference 10.1**: Department for Environment, Food and Rural Affairs (2010). Noise Policy Statement for England
- **Reference 10.2**: British Standards Institute (2014). BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites. Parts 1 and 2
- **Reference 10.3**: Department of Transport Welsh Office Calculation of Road Traffic Noise, 1988
- **Reference 10.4**: Highways England, Design Manual for Roads and Bridges LA 111 Noise and Vibration, 2020
- **Reference 10.5**: British Standards Institute (2019). BS 4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound
- **Reference 10.6**: Sport England, Artificial Grass Pitch (AGP) Acoustics – Planning Implications, New guidance for 2015
- **Reference 10.7**: Planning Noise Advice Document: Sussex 2023
- **Reference 10.8**: The European Parliament and the Council of the European Union (2002). Directive 2002/49/EC relating to the assessment and management of environmental noise (the Environmental Noise Directive
- **Reference 10.9**: HM Government (1974). Control of Pollution Act 1974
- **Reference 10.10**: The European Commission (2014) Environmental Impact Assessment Directive 2014/52/EU
- **Reference 10.11**: Department for Communities and Local Government (2021). National Planning Policy Framework
- **Reference 10.13**: Horsham District Council Planning Framework 2015
- **Reference 10.14**: Horsham District Council Draft Local Plan 2023 – 2040
- **Reference 10.15**: Department for Communities and Local Government (Published 29 November 2016, last updated 1 October 2019). Planning Practice Guidance - available at: http://planningguidance.planningportal.gov.uk/
- **Reference 10.16**: BS 8233:2014 Guidance on sound insulation and noise reduction for buildings
- **Reference 10.17**: Institute of Acoustics, Association of Noise Consultants and Chartered Institute of Environmental health, professional Practice Guidance on Planning and Noise (2017)

WSP House
70 Chancery Lane
London
WC2A 1AF

**wsp.com**

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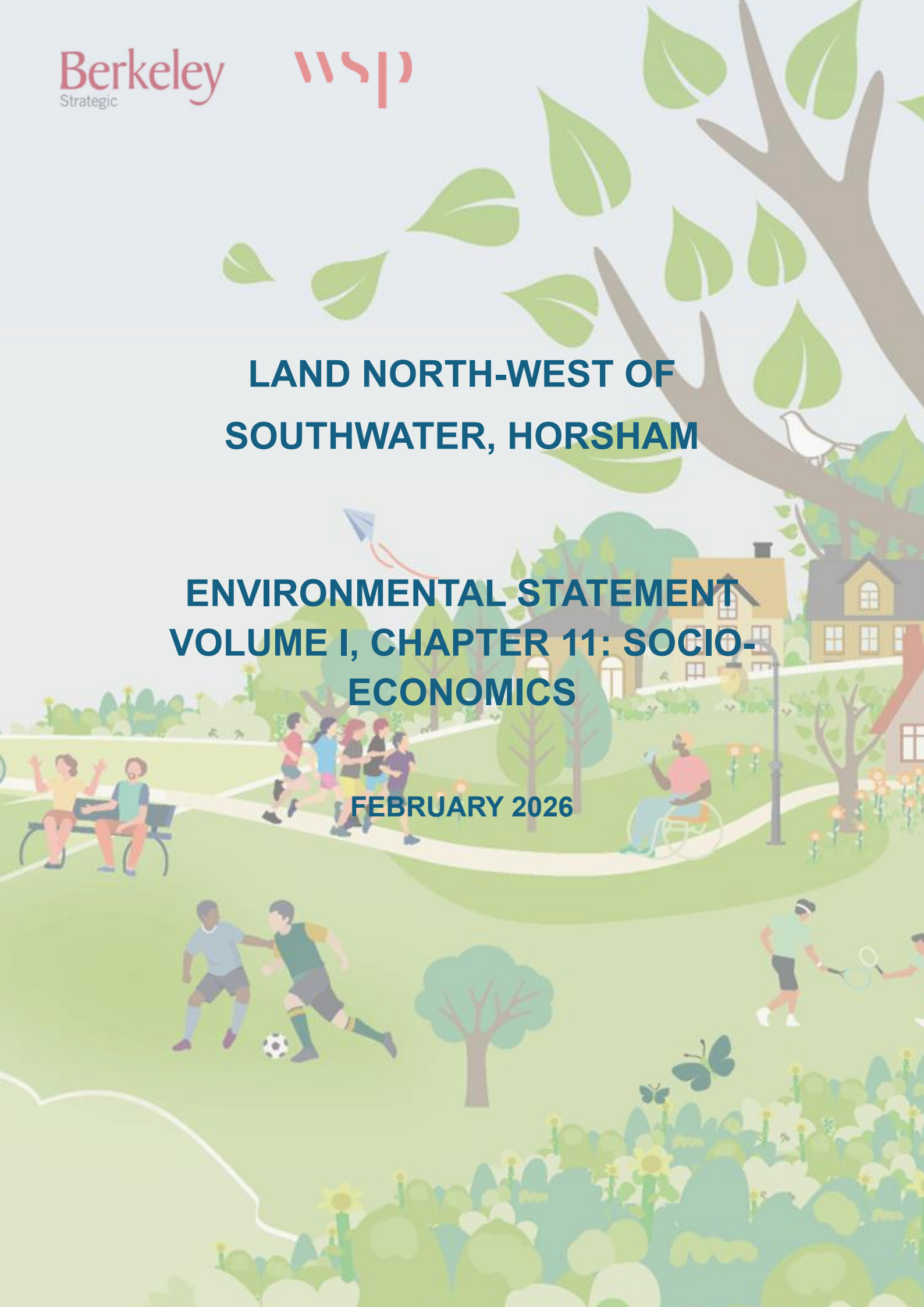
# LAND NORTH-WEST OF SOUTHWATER, HORSHAM

# ENVIRONMENTAL STATEMENT VOLUME I, CHAPTER 11: SOCIO-ECONOMICS

FEBRUARY 2026



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# 11 SOCIO-ECONOMICS

## 11.1 INTRODUCTION

11.1.1. This document seeks to outline the likely Socio-economic impacts and assessment scope in support of the planning application for the development at Land at North-West Southwater, herein referred to as the 'Proposed Development'. The Socio-economics assessment considers the likely impacts of the Proposed Development during the construction and operational phases. Mitigation measures where required are identified in relation to any likely significant effects.

11.1.2. The assessment of Socio-economics has established that the following additional mitigation measures are required:

- CIL contributions in regard to new or enhanced primary healthcare provision.

11.1.3. The following likely residual effects have been identified:

- direct, temporary, long-term **minor beneficial (not significant)** residential effect on West Sussex economy (construction employment);
- direct, permanent, long-term **minor beneficial (not significant)** residual effect on West Sussex economy (operation employment);
- direct, permanent, long-term **minor beneficial (not significant)** residual effect on West Sussex economy (additional local spend);
- direct, permanent, long-term **moderate beneficial (significant)** residual effect on Horsham District housing stock;
- direct, permanent, long-term **moderate beneficial (significant)** residual effect on Horsham District affordable housing stock;
- direct, permanent, long-term **negligible (not significant)** residual effect on early years education provision;
- direct, permanent, long-term **minor beneficial (not significant)** residual effect on primary education provision;
- direct, permanent, long-term **moderate beneficial (significant)** residual effect on secondary education provision;
- direct, permanent, long-term **negligible (not significant)** residual effect on primary healthcare provision;
- direct, permanent, long-term **moderate beneficial (significant)** residual effect on open space provision; and
- direct, permanent, long-term **minor beneficial (not significant)** residual effect on play space provision.

11.1.4. The remainder of this chapter describes the assessment methodology and the baseline conditions relevant to the assessment, which have been used to reach these conclusions, as well as the assessment of the likely significant effects leading to the additional mitigation measures required to avoid, prevent, reduce or, if possible, offset any likely significant adverse effects, and the likely residual effects after these measures have been employed.

11.1.5. This chapter is intended to be read as part of the wider Environmental Statement (ES), with particular reference to **Volume 1, Chapter 6: Air Quality**, **Volume 1, Chapter 10: Noise and Vibration**, and **Volume 1, Chapter 12: Traffic and Transport**, the Design and Access Statement which is submitted as a supporting planning document, and the Rapid Health Impact Assessment which is appended to this chapter within **Volume 2**, **Appendix 11.1.**

## 11.2 CONSULTATION, SCOPE, METHODOLOGY AND SIGNIFICANCE CRITERIA

### CONSULTATION UNDERTAKEN TO DATE

11.2.1. No consultation activities have been undertaken in relation to Socio-economics and the preparation of this Chapter, beyond consultation undertaken via the EIA Scoping process (see **Paragraph 11.2.3**). Consultation is not typically required or undertaken for Socio-economics and this has been deemed appropriate for this assessment.

### SCOPE OF THE ASSESSMENT

11.2.2. The scope of this assessment has been established through an ongoing scoping process. Further information can be found in **Volume 1, Chapter 5: Approach to EIA**.

11.2.3. An EIA Scoping Report was submitted to Horsham District Council (HDC) in October 2025, as presented in **Volume 2, Appendix 1.1 EIA Scoping Report**. There is no change of scope required based on HDC's EIA Scoping Opinion received in December 2025.

11.2.4. There are no elements scoped out of this Socio-economic assessment; all those receptors outlined below were considered in the Scoping Report as having the potential to experience significant effects during the construction and operational phases of the Proposed Development.

### ELEMENTS SCOPED INTO THE ASSESSMENT

#### Construction Phase

11.2.5. The following elements are considered to have the potential to give rise to likely significant effects during construction of the Proposed Development and have therefore been considered within this assessment:

- Direct employment opportunities generated during the construction phase; and
- Indirect and induced employment opportunities generated during the construction phase.

#### Operational Phase

11.2.6. The following elements are considered to have the potential to give rise to likely significant effects during the operation of the Proposed Development and have therefore been considered within this assessment:

- Direct employment opportunities generated during the operational phase;

- Indirect and induced employment opportunities generated during the operational phase;
- Increased local spend from new residents at the Proposed Development;
- Increase in housing stock including contribution to affordable housing stock;
- Effects on the demand for education and healthcare facilities from new residents at the Proposed Development; and
- Effects on the demand for recreational / open space and play space from new residents at the Proposed Development.

## EXTENT OF THE STUDY AREA

11.2.7. The study area for this Socio-economic assessment varies according to receptor. In the absence of statutory guidance on Socio-economic assessments, reference has been made to planning policy, best practice guidance, and professional judgement and experience. Those Socio-economic receptors for which some specific geographical parameters can be applied in relation to the Proposed Development are outlined below.

11.2.8. The economic impact of the Proposed Development is considered relative to West Sussex, as this represents the principal labour market catchment area. Horsham District is highly accessible from all areas of West Sussex and is likely to be served by labour from all districts across West Sussex. The West Sussex labour market incorporates the population that may reasonably be expected to travel to and benefit from the Proposed Development.

11.2.9. The 2024 National Travel Survey (published 2025, the most recently available at the time of writing) states that for children aged 5–10 and 11–16 in England in 2024, the majority of trips to access education facilities were under 5 miles, and most shorter trips (< 1 mile) are walked[1]. Children accessing primary schools in South East England travelled an average distance of 3.7km and secondary school children in South East England travelled an average of 5.6km; these catchments are the areas within which children are most likely to access education facilities, in proximity to their home address. There is no specific guidance on the typical distance within which nursery schools are accessed from a person's home. On the basis of past experience, 2km is considered to be appropriate and representative of a typical distance to access early years facilities within semi-rural areas. Therefore, a catchment of 2km radius has been assumed within this chapter based on professional judgement and experiences on similar sized residential development projects of a comparable geographical context.

11.2.10. The Site is located within the Sussex NHS Integrated Care System (ICS). There is no standardised catchment area within which residents typically access GP services. As such, a 'typical' catchment of 5km has been assumed, on the basis of past experience of similar schemes and geographies, and professional judgement.

11.2.11. The proximity of the Proposed Development to pocket parks, small open space, local parks and district parks has been assessed, as per the recommended accessibility standards outlined in the Horsham District Council Open Space, Sport & Recreation Review 2021 (Ref. 11.1).

[1] UK Government, National Travel Survey (2025) (online). Available at: https://www.gov.uk/government/statistics/national-travel-survey-2024/nts-2024-travel-to-and-from-school. The most recently published data at the time of writing.

11.2.12. **Table 11-1** presents the different components of the assessment and the geographical scale at which they have been assessed. Catchments identified are proportionate to describe the likely significant socio-economic effects and are based on published guidance and best practice.

**Table 11-1 - Socio-economic Effects by Geographical Scale**

| Effect | Geographical area of effect | Rationale for area of effect |
|---|---|---|
| Employment generation during the demolition and construction phase (direct, indirect and induced effects) | West Sussex | Census 2021 Origin and Destination Statistics |
| Employment generation during the operational phase (direct, indirect and induced effects) | West Sussex | Census 2021 Origin and Destination Statistics |
| Additional local spending | West Sussex | Office for National Statistics Regional Statistics 2025 |
| Provision of housing | Horsham District<br>Northern West Sussex Strategic Housing Market Area | Emerging Horsham Local Plan 2023-2040 (currently undergoing examination)<br>Horsham District Planning Framework (2015)<br>Northern West Sussex Strategic Housing Market Assessment (2019) |
| Provision of affordable housing | Horsham District | Draft Horsham Local Plan 2023-2040 (currently undergoing examination)<br>Horsham District Planning Framework (2015) |
| Effect on capacity and demand for early years education | 2km | Professional judgement and past experience |
| Effect on capacity and demand for primary education | Average travel to school area (3.7km) | National Travel Survey 2024 |
| Effect on capacity and demand for secondary education | Average travel to school area (5.6km) | National Travel Survey 2024 |
| Effect on capacity and demand for primary healthcare – GP provision | 5km radius | Professional judgement and past experience |

| Effect | Geographical area of effect | Rationale for area of effect |
|---|---|---|
| Provision of open space | 300m or 1km from natural and semi-natural greenspace of at least 0.05ha<br>480m from amenity greenspace of at least 0.05ha<br>1km from parks and gardens (guideline in size of Site is not applicable to parks and gardens) | Horsham District Council Open Space, Sport & Recreation Review 2021 |
| Provision of child play space | 400m from a local play area for children<br>1km from a local play area for young people | Horsham District Council Open Space, Sport & Recreation Review 2021 |

## METHOD OF BASELINE DATA COLLATION

### Desk Study

11.2.13. A desk based baseline data collection exercise has been undertaken which included a review of available information to determine the baseline conditions in the relevant geographical areas of effect. The following data sources have been reviewed:

- Office for National Statistics (ONS) NOMIS (Ref. 11.2); and
- English Indices of Deprivation 2025 (Ref. 11.3).

### Primary Healthcare

11.2.14. The Site is located within the Sussex NHS Integrated Care System (ICS), and comprises GP surgeries from 11 districts: Chichester; Bognor Regis; Chanctonbury; Littlehampton (Arun); Worthing (Cissbury); Adur; Burgess Hill; Haywards Heath; Horsham; East Grinstead; and Crawley. Data has been collated from the ICS website, NHS England General Practice Workforce Interactive Dashboard (Ref. 11.5); and Department of Health and Social Care – Local Authority Health Profiles (Ref. 11.6) to inform the assessment.

### Education

11.2.15. The existing baseline education provision relevant to the Proposed Development has been assessed taking account of guidance published by the Audit Commission (Ref. 11.7). In terms of the availability of education places, the Audit Commission states that *"it is unrealistic and probably undesirable to aim for a perfect match at each school; a sensible approach would be to plan for a 95% occupancy rate at schools and accept some variation, say plus or minus 10% around this target"* (Ref. 11.7). Data on school rolls and capacities has been collated from the Department for Education.

### Open and Recreational Space

11.2.16. The Horsham District Council Open Space, Sport & Recreation Review 2021 (Ref. 11.1) sets out a public open space hierarchy that provides District Councils with benchmarks to assess their existing provision of open space (Table 11-2). The baseline presents a summary of the open space hierarchy within the assessment which will be used to assess open space.

**Table 11-2 - Open Space Hierarchy in Horsham**

| Open Space Categorisation | Distances from Homes to Open Spaces | Guidelines in Size of Site (Ha) |
|---|---|---|
| Natural and Semi-natural Greenspace | 300m or 1km | At least 0.05 |
| Amenity Greenspace | 480m | At least 0.05 |
| Parks and Gardens | 1km | Not applicable |

Source: Knight, Kavanagh & Page, (2021). (Ref. 11.1)

11.2.17. The Horsham District Council Open Space, Sport & Recreation Review 2021 (Ref. 11.1) also provides guidelines on the recommended walking distances from child play spaces. The Horsham District City Council Open Space, Sport and Recreation Review 2021 (Ref. 11.1) states a recommended benchmark standard of 0.5m$^2$ of dedicated play space per child and 0.4m$^2$ per young people. The review provides the levels of accessibility to play space according to type of play space. The baseline presents a summary of the child play space accessibility benchmarks (see Table 11-3) which will be used to assess play space.

**Table 11-3 - Accessibility to Play Space in Horsham**

| Play Space Categorisation | Distance from Homes to Play Spaces |
|---|---|
| Play space for children | 400m |
| Play space for young people (including skate parks, bicycle motorcross (BMX), basketball courts, youth shelters and Multi Use Games Area (MUGAs)) | 1km |

Source: Knight, Kavanagh & Page, (2021). (Ref. 11.1)

## SITE VISIT AND SURVEYS

11.2.18. A site visit was not required for the purpose of this assessment.

## ASSESSMENT METHODOLOGY

### Construction Employment Generation

11.2.19. The gross employment generated by the temporary construction phase can be estimated by applying an average gross output per construction industry employee (Ref. 11.18) to the estimated total construction cost. Leakage, displacement, and multiplier effects are then taken into account to determine the total net employment.

### Leakage

11.2.20. Leakage effects are the *"proportion of outputs that benefit those outside of the intervention's target area or group"* (Ref. 11.9). Analysis carried out on Travel to Work data for the 2024 year (the most recently available at the time of writing) indicates that a relatively low proportion of people (17.7%) working in Horsham live outside the area (Ref. 11.2), hence this factor has been used in this assessment. This corresponds to a low leakage rate as set out by English Partnerships Additionality Guidance (Ref. 11.9) and implies that the majority of employment opportunities will go to people living within the study area.

### Displacement

11.2.21. Displacement measures the extent to which the benefits of a project are offset by reduction of output or employment elsewhere. Additional demand for labour as a result of the construction phase of the Proposed Development cannot simply be treated as a net benefit as it has the potential to remove workers from other positions, and the net benefit is therefore reduced by the extent that this occurs.

11.2.22. Construction workers typically move between construction projects when delays occur or to help the workforce meet particular construction deadlines. Given the location of the Proposed Development is situated in proximity to an urban area where construction projects are likely to occur in the surrounding area, the workforce within West Sussex is likely to have a moderate level of flexibility. The English Partnerships Additionality Guidance (Ref. 11.9) provides guidance on the levels of displacement. Within the context of the Proposed Development, a medium level of displacement of 50% is considered appropriate.

### Multiplier Effects

11.2.23. In addition to the direct employment generated by the Proposed Development itself, there will be an increase in local employment arising from *"further economic activity (jobs, expenditure or income) associated with additional local income and local supplier purchases";* the indirect and induced effects of the construction activity (Ref. 11.9). Employment growth will arise locally through manufacturing services and suppliers to the construction process (indirect or supply linkage multipliers). Additionally, part of the income of the construction workers and suppliers will be spent in West Sussex, generating further employment (induced or income multipliers).

11.2.24. The effects of the multiplier depend on the size of the geographical area that is being considered, the local supply linkages and income leakage from the area. The English Partnerships Additionality Guidance (Ref. 11.9) provides a guide to the composite multipliers (the combined effect of indirect and induced multiplier effects) which should be applied. In line with this guidance, within a West Sussex context a 'medium' multiplier of 1.5 is considered appropriate.

### Operational Employment Generation

11.2.25. Applying HCA Employment Densities Guidance (Ref. 11.10) to the employment generating floorspace within the Proposed Development will provide an estimate of the total gross jobs on-site. To determine the net operational employment, the net 'deadweight' on-site relating to the existing hotel use is discounted from the gross impact and a leakage rate of 10%, a low level of displacement of 50%, and a 1.5 multiplier (as per English Partnerships Guidance on leakage, displacement, and multipliers) (Ref. 11.9).

**Estimating Population**

11.2.26. The likely number of residents likely to inhabit the Proposed Development has been calculated based on the occupancy rates of the different sized dwellings derived from the Horsham Section 106 (s106) planning obligations contributions calculator (Ref. 11.11) on occupancy of new homes.

**Additional Local Spend**

11.2.27. To estimate the additional local expenditure generated by residents of the Proposed Development, average weekly spending figures for South East residents have been applied to the indicative accommodation schedule (**Table 11-15**). The ONS provides estimates of weekly spending per person, by region (Ref. 11.19) which can be used to provide an estimate of annual spending per resident. The average annual spend per person used for this assessment (for the South East) is £14,679.60.

11.2.28. To ensure a conservative estimate of new local spending arising from the Proposed Development, it is assumed that residents moving to the new private and intermediate homes would already be residents in West Sussex and would not generate new net expenditure. To account for this, a displacement rate of 25% has been applied based on English Partnerships Additionality Guidance (Ref. 11.9). It is also assumed that residents of affordable rent and social rented units will already reside in West Sussex (due to the way that local authority housing lists operate) and therefore residents of social rented units are discounted from local spend calculations.

11.2.29. Leakage is estimated to take into account the level of expenditure that is likely to take place outside of West Sussex. It is anticipated that a low level (17.7%) of leakage will occur (as outlined in paragraph 11.2.20) and that the majority of household expenditure will be retained within West Sussex (Ref. 11.9).

**Child Yield for Education**

11.2.30. In order to calculate child yield, the child occupancy rates outlined within the Horsham s106 planning obligations contributions calculator (Ref. 11.11) have been applied to the indicative accommodation schedule to calculate the number of children requiring primary and secondary school places.

11.2.31. For early years education, in the absence of a local or regionally specific guide to population yield from new residential developments for children aged under 4, the child yields in the Wandsworth New Housing Study (Ref. 11.12) have been applied to the estimated population to calculate the number of children requiring early year education places (in line with industry best practice). It is estimated that 50% of all children aged 0-4 years old will attend nursery. Therefore, a discount of 50% is applied to the number of children projected to reside within the Proposed Development for early years education space demand.

**Play Space Demand**

11.2.32. The Horsham District Council Open Space, Sport and Recreation Review 2021 (Ref. 11.1) and the Horsham District Emerging Local Plan 2024 (11.14) outlines a recommended benchmark standard of 0.5m$^2$ of dedicated play space per child (aged 0-11) and 0.4m$^2$ per young person (aged 12+).

11.2.33. In order to calculate the estimated number of children aged 0-17 residing within the Proposed Development, the Horsham s106 planning obligations contributions calculator (Ref. 11.11) and Wandsworth New Housing Study (Ref. 11.12) has been applied to determine the child yield arising from the Proposed Development. Note that this method differs to that used to calculate education requirements; it is assumed that all resident children will require access to play space whereas not all resident children will require education places (taking account of those who would not attend year 11 to 13, as stated within the Horsham s106 planning obligations contributions calculator).

**EFFECT SIGNIFICANCE**

11.2.34. The socio-economic assessment seeks to establish the potential social and economic impacts of the Proposed Development and assesses these against the current baseline conditions. The impacts of the Proposed Development are considered at varying spatial levels according to the nature of the impact. This approach is consistent with the English Partnerships 'Additionality Guide, A Standard Approach to Assessing the Additional Effect of Projects, 4th Edition' (Ref. 11.9).

11.2.35. A socio-economic receptor or resource, which generally include economic entities and users of social infrastructure provision, can experience a socio-economic effect in different ways, including:

- As an economic / financial gain or loss; and
- As a gain or loss of a resource or access to a resource.

11.2.36. The sensitivity of receptors has been identified on a case by case basis with reference to relevant guidance where applicable and / or by employing professional judgement; determination of sensitivity varies depending on the type of receptor.

**Classifying Effects**

11.2.37. The assessment of potential effects uses the scale described within **Volume 1, Chapter 5: Approach to EIA** of this ES. In this chapter policy thresholds and expert judgment are used to assess the scale of the effects of the Proposed Development, against the baseline conditions.

11.2.38. For socio-economics, there is no accepted definition of what constitutes a significant (or not significant) socio-economic effect. It is however recognised that 'significance' reflects the relationship between the scale of effect (magnitude) and the sensitivity (or value) of the affected resource or receptor.

11.2.39. As such effects are assessed on the basis of:

- Consideration of sensitivity to effects – specific values in terms of sensitivity are not attributed to socio-economic resources / receptors due to their diversity in nature and scale, however the assessment instead takes account of the qualitative (rather than quantitative) 'sensitivity' of each receptor and, in particular on their ability to respond to change;
- Magnitude of impact – this entails consideration of the size of the impact on people or business in the context of the area in which the effects will be experienced; and
- Scope for adjustment or mitigation – this assessment is concerned in part with economies which adjust themselves continually to changes in supply and demand. The scope for the changes brought about by the Proposed Development to be accommodated by market adjustment will therefore be a criterion in assessing effect significance.

11.2.40. The assessment process aims to be objective and quantifies effects as far as possible. However, many socio-economics effects can only be evaluated on a qualitative basis. Effects are defined as follows:

- Beneficial classifications of significance indicate an advantageous or beneficial effect on an effect area, which may be minor, moderate, or major in effect;
- Negligible classifications of significance indicate imperceptible effects on an effect area; and
- Adverse classifications of significance indicate a disadvantageous or adverse effect on an effect area, which may be minor, moderate or major in effect.

11.2.41. Based on consideration of the above, where an effect is assessed as being beneficial or adverse, significance has been assigned using the scale below based on professional judgement:

- Negligible: no receptors (or very few) are beneficially or adversely affected. The effect is unlikely to make a measurable difference on the receptors in the relevant areas of effect;
- Minor: a small number of receptors are beneficially or adversely affected. The effect is likely to make a small measurable positive or negative difference on receptors in the relevant area(s) of effect;
- Moderate: a moderate number of receptors are beneficially or adversely affected. The effect is likely to make a measurable positive or negative difference on receptors in the relevant area(s) of effect; and
- Major: all or a large number of receptors are beneficially or adversely affected. The effect is likely to make a substantial positive or negative difference on receptors in the relevant area(s) of effect.

11.2.42. The duration of effect is also considered, with more weight given to permanent changes than to temporary ones. Temporary effects are considered to be those associated with the enabling, demolition and construction works, and may be short, medium or long term. Permanent effects are generally those associated with the completed development and are expected to be non-reversible.

11.2.43. Effects that are deemed to be significant for the purpose of this assessment are those that are described as being moderate or major beneficial or adverse. Effects below moderate are classified as not significant.

## 11.3 LEGISLATIVE FRAMEWORK, POLICY AND GUIDANCE

### LEGISLATIVE FRAMEWORK

11.3.1. There are no legislative requirements which exist in relation to socio-economics, and therefore the assessment is guided by the Government's planning policy and guidance.

**Town and Country Planning (Environmental Impact Assessment) Regulations 2017**

11.3.2. The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (EIA Regulations) require *"an assessment of the direct and indirect significant effects of the development on […] population […]".*

11.3.3. This is typically interpreted as requiring an assessment of socio-economic effects, in order to establish how the interaction of social and economic factors arising from the Proposed Development affect people.

### POLICY

11.3.4. National and local planning policies relevant to socio-economic assessment are as follows:

- National Planning Policy Framework 2024 (Ref. 11.13);
- Horsham District Planning Framework 2015 (Ref. 11.15); and
- Horsham District Emerging Local Plan (Draft submitted) (Ref. 11.14).

### GUIDANCE

11.3.5. The following guidance documents have been used during the preparation of this chapter:

- GVA on behalf of Homes and Community Agency (HCA) (2015) Employment Density Guide 3rd Edition (Ref. 11.10); and
- Homes and Communities Agency (2014) Additionality Guide 4th Edition (Ref. 11.9).

## 11.4 BASELINE CONDITIONS

Baseline data is presented (where relevant and available) for Horsham, and a comparison provided with West Sussex, and Great Britain as a whole.

### POPULATION

11.4.1. According to Census data, in 2021 (Ref 11.2) the total population of Horsham[2] was 146,778 (an 11.8% increase from 131,301 in 2011). For West Sussex, the total population was 882,676 (a 9.4% increase from 806,892 in 2011).

11.4.2. In 2024, 915,037 people were estimated to be resident in West Sussex. This was 11,004 more than in 2023, an increase of 1.2%. In the period from mid-2021 to mid-2024, the population estimate of West Sussex increased by 3.4%. For Horsham, the population estimate was 151,521 (mid-2024).

11.4.3. Horsham has a similar percentage of young people under 15 years old, with 17.8%, compared to West Sussex at 17.7%. However, this is a lower proportion than the South East region, which stands at 18.5%.

11.4.4. The estimated population aged 16-64 as a percentage of the total resident population in Horsham, West Sussex, and Great Britain is shown in Table 11-4, with a slightly lower proportion of working age residents (those aged 16-64 years old) within Horsham and West Sussex compared with Great Britain as a whole.

**Table 11-4 - Population aged 16-64 (% of the resident population)**

| Horsham | West Sussex | Great Britain |
|---|---|---|
| 58.5% | 59.2% | 62.8% |

Source: ONS, NOMIS (Ref. 11.2)

[2] The most recently available data at the time of writing.

## EMPLOYMENT AND ECONOMIC ACTIVITY

### Labour Market

#### Working Age Population

11.4.5. As indicated in the age profile subsection, approximately 58.5% of residents in Horsham district are of working age (age 16-64), broadly in line with both West Sussex (59.2%) and Great Britain (62.8%).

#### Employment rate

11.4.6. Horsham's employment rate was higher than across the South East as a whole in the year July 2024 to June 2025. Of people aged 16 to 64 years living in Horsham, 86.5% were employed between July 2024 and June 2025. This is an increase compared with the year ending December 2023 when the local rate was 78.0%. Across the South East between July 2024 and June 2025, 81.0% of people aged 16 to 64 years were employed. This was higher compared with December 2023, when 79.3% of people were employed.

#### Unemployment

11.4.7. Around 2,000 people aged 16 and over in Horsham District were unemployed in the year ending June 2025. This is a rate of 2.7%. This was an increase compared with the year ending December 2023 when the unemployment rate was 2.6%. Across the South East, from the year ending December 2022 to the year ending December 2023, there was a decrease in the unemployment rate from 3.1% to 2.9%.

### Claimant Counts

11.4.8. The Claimant Count in Horsham was 1755 in November 2025, up from March 2024, when there were 1655 claimants. The proportion of people aged 16 to 64 years in Horsham who were claiming unemployment-related benefits was 2.0% in November 2025, a similar value compared with March 2024 when it was 1.9%.

### Skills Attainment

11.4.9. The 2021 Census found that a proportion of residents in Horsham (12.5%) had no formal qualifications which was lower when compared to the average for West Sussex (15.8%) and South East of England (15.4%). Correspondingly, those with qualifications at Level 4 or above comprised 37.0% of the population in Horsham, as compared to the averages for West Sussex (32.7%) and South East of England (35.8%). These findings are shown in **Table 11-5**.

**Table 11-5 - Skills Attainment, Horsham, West Sussex and South East of England**

| Highest level of qualification | Horsham<br>Percentage | West Sussex<br>Percentage | South East of England<br>Percentage |
|---|---|---|---|
| **No qualifications** | 12.5 | 15.8 | 15.4 |
| **Level 1 and entry level qualifications** | 9.5 | 10.5 | 9.8 |
| **Level 2 qualifications** | 15.6 | 15.2 | 13.9 |
| **Apprenticeship** | 4.8 | 5.4 | 5.1 |
| **Level 3 qualifications** | 18.1 | 17.5 | 17.4 |
| **Level 4 qualifications or above** | 37.0 | 32.7 | 35.8 |
| **Other qualifications** | 2.5 | 2.9 | 2.7 |

**Source: ONS (2022), 2021 Census.**

11.4.10. The NOMIS Job Densities Report (Ref. 11.2), is available on a Local Authority-wide and sub-regional level and indicates the availability of employment and labour demand. As of the latest available data (jobs recorded and population collated in 2024), the job density in Horsham District was 0.84 jobs per resident aged 16–64, lower than West Sussex overall (0.86) and slightly below the Great Britain average (0.86). This continues to indicate fewer employment opportunities locally in Horsham compared with the county level and the national context.

11.4.11. There were estimated to be 57,000 jobs in Horsham in 2024, of which 68.4% were full-time and 33.3% part-time. **Table 11-6** shows the proportion of total employees working in each industry sector in 2024 (Ref. 11.2).

**Table 11-6 - Proportion of Total Employees in each Industry Sector**

| Industry Sector | Horsham (%) | West Sussex (%) | Great Britain (%) |
|---|---|---|---|
| B: Mining and quarrying | 0.0 | 0.0 | 0.2 |
| C: Manufacturing | 7.0 | 7.0 | 7.3 |
| D: Electricity, gas, steam and air conditioning supply | 0.3 | 0.3 | 0.4 |
| E: Water supply; sewerage, waste management and remediation activities | 1.4 | 1.0 | 0.7 |
| F: Construction | 7.0 | 4.7 | 5.0 |
| G: Wholesale and retail trade; repair of motor vehicles and motorcycles | 17.5 | 15.6 | 13.7 |
| H: Transportation and storage | 3.1 | 8.3 | 5.0 |
| I: Accommodation and food service activities | 7.9 | 9.1 | 7.8 |
| J: Information and communication | 5.3 | 3.6 | 4.5 |
| K: Financial and insurance activities | 2.2 | 2.6 | 3.4 |
| L: Real estate activities | 2.2 | 1.8 | 1.9 |
| M: Professional, scientific and technical activities | 10.5 | 7.3 | 9.3 |
| N: Administrative and support service activities | 10.5 | 8.8 | 8.6 |
| O: Public administration and defence; compulsory social security | 1.6 | 3.1 | 4.9 |
| P: Education | 8.8 | 8.3 | 8.6 |
| Q: Human health and social work activities | 8.8 | 13.5 | 14.2 |
| R: Arts, Entertainment and Recreation | 3.1 | 2.9 | 2.5 |
| S: Other service activities | 3.9 | 2.1 | 1.9 |

Source: ONS, NOMIS (Ref. 11.2)

11.4.12. **Table 11-6** shows that the Wholesale and Retail Trade is the largest employment sector within Horsham (17.5%). Administrative and support service activities and Professional, scientific and technical activities are the next most highly represented sectors (10.5%) followed by Education; Accommodation and food service activities; Human Health and Social Work activities sectors (all 8.8%). Overall, the diversity of industries within Horsham includes both higher skilled employment sectors (such as education) and lower skilled sectors (such as Wholesale and Retail Trade). The proportion of employees within each industry sector in Horsham is broadly in line with West Sussex and Great Britain averages overall. There is one notable difference between the proportions of employees per sector when comparing Horsham with West Sussex, with almost three times the proportion of employees in the Transportation and storage sector within West Sussex than within Horsham.

**DEPRIVATION**

11.4.13. The English Indices of Deprivation (Ref. 11.3) uses a combination of information relating to seven 'domains': income; employment; health deprivation and disability; education, living environment; barriers to housing and services; and crime to create an overall score of deprivation. Deprivation is scored between 1 and 33,755 (representing the 33,755 lower layer super output areas (LSOAs) within England), with a score of 1 being most deprived and 33,755 being least deprived.

11.4.14. The Indices of Multiple Deprivation 2025 (Ref. 11.3) ranks the deprivation surrounding the Proposed Development as less deprived overall than 86% of neighbourhoods in England. Within this area, the highest ranking category in terms of deprivation is 'Barriers to housing and services' and the lowest ranking categories are 'income' and 'health and disability'.

**HOUSING**

11.4.15. As of the latest dwelling stock estimates (November 2025), Horsham District has approximately 66,392 dwellings, up from around 62,370 recorded in the 2021 Census (Ref. 11.20). In terms of tenure, Census data reveals that 72.3% of dwellings within Horsham were privately owned, a slightly higher proportion compared with 68.5% in West Sussex.

11.4.16. A 'Strategic Housing Market Assessment' (SHMA) (Ref. 11.15) was published in 2019 covering the Northern West Sussex region which comprises of Horsham and Crawley. The assessment identified Crawley as having a relatively higher proportion of social rented dwellings 23.8% compared to Horsham which has 11.6%. The Emerging Local Plan (Ref. 11.14) Policy 39 outlines a target for a minimum provision of 35% affordable housing of the total housing provision on strategic greenfield sites.

11.4.17. The Strategic Policy 37: Housing Provision of the Horsham District Emerging Local Plan has identified a total of 13,212 homes which are considered to be deliverable in the Plan period. Taking account of the need for flexibility of supply, this equates to an annualised target of 777 homes each year (and includes a 10% buffer for the first five years of the Plan period). The Emerging Local Plan provides a housing target of 480 homes per annum from 2023 – 2028, and then 901 homes per year from 2029-2040. The Northern West Sussex SHMA (Ref. 11.15) outlines a joint strategy for Crawley and Horsham, with assessed local housing need of 965 dwellings per annum in Horsham, with 19,300 dwellings to be delivered between 2019 and 2036.

## EDUCATION

### Early Years Education

11.4.18. Early years education refers to provision for children aged 0-4 years old. Attendance at an early years facility is not compulsory and local authorities are not required to provide early years education places for all 0-4 year olds (in the same way as they are required to plan for places for all primary and secondary school aged children). As such, early years provision is typically provided in a variety of privately operated settings including nurseries and childminders, as well as local authority managed children's centres.

11.4.19. There are 11 early years facilities within 2km of the Site:

- Bright Horizons Horsham Day Nursery and Preschool;
- Kookaburra Playgroup;
- Catkins Nursery;
- Bluecoat Nursery;
- Southwater Preschool;
- Southwater Infant Academy;
- Bee-utiful Bubbas Tiny Home Nursery;
- Southwater Montessori;
- Southwater Village Hall Pre School;
- Little Barn Owls Forest School; and
- Kids Like Us.

11.4.20. There is no information currently available on the capacity of these facilities (as privately operated nurseries are not required to publish information on capacity) and whether new pupils are being accepted at present, however it is understood that all these early years providers operate waiting lists for new pupils. An assumption has been made, for the purposes of the assessment, that there is limited capacity available at these facilities.

### Primary Education

11.4.21. All children are required to attend primary schools from the September following their fourth birthday (although it is possible to defer a year in some instances) and it is the responsibility of the local education authority to ensure that sufficient primary education places are available. Primary education is provided in a variety of local authority managed settings. Within 3.7km of the Site there are eight primary schools.

11.4.22. **Table 11-7** outlines the difference between the school capacity and the number of pupils enrolled in a school (roll) and indicates whether the provision of school places is over or under capacity. The data indicates that in 2025 (the most recently available data at the time of writing) there was a total surplus of 313 primary education places. If it is assumed that 95% occupancy of school places should be planned for, as per the Audit Commission Guidance (Ref. 11.7) and therefore that a 95% occupancy rate means a school has no further capacity[3], there remains a total surplus of 203 places against planned provision for primary school children living within 3.7km of the Site.

**Table 11-7 - Primary Schools within 3.7km of the Site**

| School Name | School Capacity | Number of Pupils (roll) | Surplus / Deficit of Places | Surplus / Deficit at 95% Capacity |
|---|---|---|---|---|
| Shelley Primary School | 420 | 411 | 9 | 0 |
| St John's Catholic Primary School | 210 | 200 | 10 | 0 |
| Trafalgar Community Infant School | 270 | 214 | 56 | 43 |
| Greenway Academy | 480 | 307 | 173 | 149 |
| St Mary's CofE (Aided) | 210 | 196 | 14 | 4 |
| Southwater Junior Academy | 480 | 445 | 35 | 11 |
| Castlewood Primary School | 210 | 204 | 6 | 0 |
| Barns Green Primary School | 140 | 130 | 10 | 3 |
| Heron Way Primary School | 420 | 418 | 2 | 0 |
| Kingslea Primary School | 420 | 426 | -6 | -6 |
| Arunside Primary School | 420 | 416 | 4 | 0 |
| **Total** | **3,680** | **3,367** | **313** | **203** |

11.4.23. The West Sussex Planning School Places Strategy 2025 (Ref. 11.16) identifies that there are currently sufficient primary school places in the Horsham District area and there is no anticipated additional requirement for primary places in the next five years in Horsham District, apart from in Storrington village (which is outside the catchment for primary schools at the Proposed Development).

[3] Schools which have less than 5% capacity have been assumed to have zero surplus capacity and schools with surplus capacity have had a 5% reduction applied to their capacity to account for the fact that they would considered to be full at 95% capacity

### Secondary Education

11.4.24. Secondary schools typically provide education for children between the ages of 11-18. All children are required to stay in education (or training) until the age of 18 and can also choose to study at a higher education college or skills centre. Similar to primary schools, secondary education is provided in a variety of local authority managed settings. Within 5.6km of the Site there are three secondary schools.

11.4.25. Within **Table 11-8**, the difference between the school capacity and the number of pupils enrolled in a school (roll) indicates whether the provision of school places is over or under capacity. Data indicates that in 2025 (the most recently available data at the time of writing) there was a total surplus of 522 secondary education places. If it is assumed that 95% occupancy of school places should be planned for, as per the Audit Commission Guidance (Ref. 11.9) and therefore that a 95% occupancy rate means a school has no further capacity[5], there is a total surplus of 390 places against planned provision for secondary school children living within 5.6km of the Site.

**Table 11-8 - Secondary Schools within 5.6km of the Site**

| School Name | School Capacity | Number of pupils (roll) | Surplus / Deficit of Places | Surplus / Deficit at 95% Capacity |
|---|---|---|---|---|
| Tanbridge House School | 1,500 | 1,524 | -24 | -24 |
| The Forest School | 1,140 | 1,039 | 101 | 44 |
| Millais School | 1,500 | 1,055 | 445 | 370 |
| **Total** | **4,140** | **3,618** | **522** | **390** |

11.4.26. The West Sussex Planning School Places strategy 2025 (Ref. 11.16) identifies that although there are sufficient secondary places in Horsham currently, some of the places at Millais School for girls have not been filled in recent years, and some boys in the area have not been able to secure a place locally. As such, from September 2026, the Millais School is to become co-educational, increasing the number of spaces available for boys in Southwater and the wider West Sussex area.

### PRIMARY HEALTHCARE

11.4.27. The Department for Health and Social Care produces health profiles for each local authority in England. The most recent data available on the local authority health profile for Horsham indicates that the health status of the population is considerably better for most categories when compared with the England average (Ref. 11.6) including: Life expectancy at birth (male and female); Under 75 years mortality rate (all causes); Smoking prevalence in adults; Physically active adults; Rates of teenage pregnancy; and Child obesity.

11.4.28. However, Horsham performed significantly worse than England for several health indicators including estimated diabetes diagnosis rate and estimated dementia diagnosis rate.

11.4.29. There are five GP surgeries located within 5km of the Site (considered to be a typical walking distance), as shown in **Table 11-9**. All the surgeries are accepting new patients (Ref. 11.4). At these surgeries there are a total of 27.8 Full Time Equivalent (FTE)[4] GPs and 67,567 registered patients. The average number of patients per GP across the practices (2,430 patients per GP) is higher (i.e. worse) than the average ratio of 1,912 patients per GP in South East England (1,912 patients per FTE GP) as recorded by NHS England in November 2025 (the most recently available data at the time of writing) (Ref. 11.5). At the Park Surgery, the ratio of patients to FTE GPs is considerably higher (5,124), suggesting there are limited GP services available currently, with potential for long waiting times to access appointments.

**Table 11-9 - GP Surgeries within 5km of the Site**

| Name | FTE GPs | Registered Patients | Patients per FTE GP |
|---|---|---|---|
| The Courtyard Surgery | 7.3 | 15,908 | 2,179 |
| Park Surgery | 3.9 | 19,985 | 5,124 |
| Orchard Surgery | 3.7 | 8,905 | 2,407 |
| Riverside Medical Practice | 6.7 | 11,513 | 1,718 |
| Village Surgery | 6.2 | 11,256 | 1,815 |
| Total | 27.8 | 67,567 | 2,430 |

Source: NHS Digital Information Service: GP Workforce practice data (Ref. 11.5)

[4] Full Time Equivalent equates to the number of GPs working a 'full' five-day week, given the majority of GP practitioners do not work full time. As such, FTE is used rather than headcount to present accurately the level of staffing provision and the level of service available at a practice, rather than using headcount numbers which could suggest a higher GP staff availability than actually exists.

## OPEN SPACE

11.4.30. The Horsham District Council Open Space, Sport and Recreation Review 2021 (Ref. 11.1) sets out to help inform the direction on the future provision of accessible, high quality, sustainable provision for open spaces in Horsham District. It can be used to help inform the priorities for open space provision as part of future population distribution and planned growth. There are 52 sites classified as parks and gardens across the Horsham District, the equivalent of approximately 126ha. The District has a current provision level of 0.91ha per 1,000 head of population. In Southwater (where the Proposed Development is closest to) there is a total of 7.97ha of parks and gardens, with a total provision of 0.70ha / 1,000 population; less than the District average. Fields In Trust (FIT) suggests 0.80ha per 1,000 population as a minimum guideline quantity standard for Parks and Gardens; the District is above this. However, there is a mixture of areas which are above or below this figure.

11.4.31. **Table 11-10** identifies existing areas of open space within varying distances of the Site, in line with Horsham District Council Open Space, Sport & Recreation Review 2021 (Ref. 11.1). There is a natural greenspace, several amenity greenspace and several parks and gardens in the locality of the Site.

**Table 11-10 - Public Open Spaces Accessible from the Site**

| Open Space Categorisation | Guidelines on the Size of Open Space (ha) | Distance from the Proposed Development to Open Space | Name of open space |
|---|---|---|---|
| Natural & Semi-natural Greenspace | At least 0.05 | 300m (local) or 1km (sub-district or strategic) | Downs Link<br>Southwater Country Park |
| Amenity Greenspace | At least 0.05 | 480m | College Road Larkspur Way Nyes Lane Oak Road |
| Parks & Gardens | Not applicable | 1km | Southwater Sports Club<br>Southwater Sports Club pitches<br>Southwater Leisure Centre |

Source: Knight, Kavanagh & Page, (2021) (Ref. 11.1), WSP research.

### PLAY SPACE

11.4.32. The Horsham District Council Open Space, Sport & Recreation Review 2021 (Ref. 11.1) outlines accessibility standards for access to play spaces according to size. There are two play spaces within 400m for children and ten play spaces within 1km for young people as set out in **Table 11-11**.

**Table 11-11 - Play Spaces within 400m of the Site**

| Play Space Categorisation | Maximum Walking Distance from Site | Name of Space |
|---|---|---|
| Play space for children | 400m | Larkspur Way Playing Field |
| Play space for young people (12+ years) | 1km | Cedar Drive play area Buttercup Way play area Cornflower Way play area Leeds Close play area<br>Southwater Leisure Centre play area<br>Nutham Lane play area<br>Pevensey Road play area<br>Southwater Country Park play area<br>Thistle Way play area Warren Drive play area |

Source: Knight, Kavanagh & Page, (2021) (Ref. 11.1), WSP research.

### FUTURE BASELINE

11.4.33. It is anticipated that in the absence of the Proposed Development, a number of demographic factors would be likely to change due to natural fluctuation and change, including total population and a proportion of working age, with population trends also seeing an ageing population who may place a greater demand of local services such as healthcare.

11.4.34. In terms of demand for housing and local services, these are likely to continue in line with projected population growth, with a continuing need to provide education services. This is particularly likely given the District Council's significant housing delivery targets in the Emerging Local Plan (Ref. 11.14) between 2023 and 2040.

11.4.35. In terms of economic growth, Horsham is a market town in West Sussex with a strong and resilient economy and geographically strategic position in the South East with good connections to London and the wider South of England.

## 11.5 SENSITIVE RECEPTORS

### CONSTRUCTION

11.5.1. For the purposes of this assessment, the sensitive receptors during the construction phase are construction phase employees working at the Site who have the potential to benefit from employment generated in the local and regional economy.

### OPERATION

11.5.2. The sensitive receptors during the operational phase are the population affected by the Proposed Development which includes future residents and employees at the Proposed Development, and other residents and employees in the local area who utilise new and existing facilities and amenities at the Site and in the surrounding area.

## 11.6 ASSESSMENT OF POTENTIAL EFFECTS, MITIGATION AND RESIDUAL EFFECTS

## CONSTRUCTION PHASE

### Construction Employment

11.6.1. Construction employment represents a positive economic effect that can be estimated as a function of the scale and type of construction (infrastructure and buildings). The following section estimates gross employment arising from the Proposed Development during the construction phase and then takes into account leakage, displacement and multiplier effects in order to assess the net effects on construction employment for the West Sussex economy.

#### Gross Direct Demolition and Construction Employment

11.6.2. The estimated enabling works, demolition and construction period is approximately 13 years. The construction work is not permanent and therefore the effect will be temporary but long-term in nature. There may be opportunities for training and apprentice roles within the construction period. The capital and revenue expenditure involved in the construction period will lead to increased output in the district, West Sussex and the wider regional economy.

11.6.3. Applying an average gross output (Ref. 11.18) per construction industry employee to the estimated total construction cost, as outlined in the methodology section, it is therefore estimated that there are likely to be 162 FTE gross construction employees per annum on the Site during the construction phase.

#### Net Additional Construction Employment

11.6.4. **Table 11-12** presents the temporary employment generated by the Proposed Development taking leakage, displacement and multiplier effects into account. The total net additional employment created within West Sussex as a result of the Proposed Development is estimated to be 100 employees per annum, whilst 21 jobs will be created outside of West Sussex, resulting in a total net employment generation of 121 jobs on average per annum during the construction period.

**Table 11-12 - Construction Employment Generation Per Annum**

| FTE Employment Generation | West Sussex | Outside West Sussex | Total |
|---|---|---|---|
| Gross Direct Employment | 133 | 29 | 162 |
| Displacement | 67 | 14 | 81 |

| FTE Employment Generation | West Sussex | Outside West Sussex | Total |
|---|---|---|---|
| Net Direct Employment | 67 | 14 | 81 |
| Net Indirect and Induced Employment | 33 | 7 | 40 |
| Total Net Employment | 100 | 21 | 121 |

Source: WSP calculations (note – numbers may not sum exactly due to rounding)

11.6.5. In the context of a large labour pool of construction workers in West Sussex, the direct, indirect and induced employment, expenditure and upskilling created by the demolition and construction phase of the Proposed Development is likely to have a direct, temporary, long-term minor beneficial (not significant) effect on the West Sussex economy prior to the implementation of mitigation measures.

**Mitigation / Enhancement**

11.6.6. There are no mitigation measures required or proposed for Socio-economics in relation to construction employment generation. It is not considered appropriate for there to be any monitoring arrangements.

**Residual Effects**

11.6.7. Given there is no mitigation in relation to construction employment for Socio-economics, the pre-mitigation finding remains the same. Therefore, there is likely to be a direct, temporary, long-term minor beneficial (not significant) residual effect on the West Sussex economy.

## OPERATIONAL PHASE

### OPERATIONAL EMPLOYMENT

11.6.8. The Proposed Development will generate long-term employment opportunities once it is complete and operational. In estimating operational job generation, it is important to consider not just the gross effects of the Proposed Development, but also net effects taking into account leakage, displacement and multiplier effects.

**Gross Direct Operational Employment**

11.6.9. The outline application envisages a total of up to 24,415m$^2$ Gross Internal Area (GIA), broken down by: flexible employment use class B2, B8 and E(g) (17,000m$^2$ GIA); flexible commercial and community use class F1, F2 and E (2,000m$^2$ GIA); and C2 residential later life care (5,415m$^2$ GIA). Employment densities corresponding to these uses as outlined in the HCA Employment Densities Guide (Ref. 11.10) have been applied in order to calculate the projected gross number of employees.

11.6.10. At this stage the specific mix of uses is yet to be determined and therefore, for the purposes of assessing a 'worst-case scenario' for employment generation in socio-economic terms, the employment density which is likely to yield the lowest number of employees (in line with densities outlined in the HCA Employment Densities Guide - 3rd Edition 2015) (Ref. 11.10) has been applied. This is a density of 70 employees/$m^2$ GEA floorspace for employment use and 20 employees/$m^2$ NIA floorspace for commercial and community use. For C2 uses, the employment density has been taken from the London Employment Sites Database, and is 45 employees/$m^2$ GIA (Ref 11.17).

11.6.11. When the Proposed Development is complete and operational, the employment floorspace on-site is estimated to support an estimated 455 gross jobs on-site, as presented in **Table 11-13**.

**Table 11-13 - Gross Direct Operational Employment Generation**

| Use Class | Floorspace ($m^2$) | Employment Density (per $m^2$) | Gross Direct Employment |
|---|---|---|---|
| Flexible B2, B8 and E(g) | 17,895 m2 GEA (17,000m2 GIA) | 70 | 255 |
| Flexible F1, F2 and E | 1,600m2 NIA (2,000m2 GIA) | 20 | 80 |
| C2 | 5415 m2 GIA | 45 | 120 |
| Total Gross Direct Employment | | 455 | |

Source: WSP calculations

11.6.12. Assuming a leakage of 17% outside West Sussex, a medium level of displacement, and a 1.5 multiplier, it is estimated that the Proposed Development will result in the creation of an estimated 341 net additional jobs, of which 283 are estimated to be taken up by residents of West Sussex, and 58 by residents outside West Sussex (**Table 11-14**).

**Table 11-14 - Net Additional Operational Employment Generation**

| FTE Employment Generation | West Sussex | Outside West Sussex | Total |
|---|---|---|---|
| Gross Impact | 377 | 78 | 455 |
| Displacement | 188 | 39 | 227 |
| Net Direct Employment | 188 | 39 | 227 |

| FTE Employment Generation | West Sussex | Outside West Sussex | Total |
|---|---|---|---|
| Net Indirect and Induced Employment | 94 | 19 | 113 |
| Total Net Employment | 283 | 58 | 341 |

Source: WSP calculations (numbers may not sum exactly due to rounding)

11.6.13. Taking into account the additional net direct, indirect, and induced employment created by the permanent employment of the Proposed Development, it is assessed that the Proposed Development is likely to have a direct, permanent, long term minor beneficial (not significant) effect on the West Sussex economy prior to the implementation of mitigation measures.

**Mitigation / Enhancement**

11.6.14. There are no mitigation measures required or proposed for Socio-economics in relation to operational employment generation. It is not considered appropriate for there to be any monitoring arrangements.

**Residual Effects**

11.6.15. Given there is no mitigation in relation to operation employment for Socio-economics, the pre-mitigation finding remains the same. Therefore, there is likely to be a direct, permanent, long-term minor beneficial (not significant) residual effect on the West Sussex economy.

**ADDITIONAL LOCAL SPENDING BY RESIDENTS**

11.6.16. To estimate the effect of the Proposed Development in terms of additional local expenditure, average weekly spending figures for residents in West Sussex have been applied to the indicative accommodation schedule. The likely number of residents arising from the Proposed Development has been calculated based on guidance on new homes occupancy in the Horsham s106 planning obligations contributions calculator (Ref. 11.11) on occupancy of new homes.

11.6.17. The Proposed Development will provide a total of 1,000 residential dwellings, as outlined in **Table 11-15**. On the basis of the indicative accommodation schedule, the Proposed Development will support approximately 2,370 residents (**Table 11-16**).

**Table 11-15 - Indicative Accommodation Schedule of the Proposed Development**

| Size | Market Units | Intermediate Units[7] | Affordable and Social Rented Units | Total |
|---|---|---|---|---|
| 1 bedroom flat | 21 | 26 | 85 | 132 |
| 2 bedroom flat | 36 | 38 | 61 | 135 |

| Size | Market Units | Intermediate Units[7] | Affordable and Social Rented Units | Total |
|---|---|---|---|---|
| 2 bedroom house | 60 | 5 | 21 | 86 |
| 3 bedroom house | 271 | 25 | 58 | 354 |
| 4 bedroom houses | 196 | 11 | 20 | 227 |
| 5 bedroom houses | 66 | 0 | 0 | 66 |
| Total | 650 | 105 | 245 | 1000 |

**Table 11-16 - Total Estimated Number of Residents at the Proposed Development**

| Size | Occupancy Rate | Market Occupants | Intermediate Occupants8 | Affordable and Social Rented Occupants | Total |
|---|---|---|---|---|---|
| 1 bedroom flat | 1.3 | 27 | 34 | 111 | 172 |
| 2 bedroom flat | 2 | 72 | 76 | 122 | 270 |
| 2 bedroom house | 1.9 | 114 | 10 | 40 | 164 |
| 3 bedroom house | 2.5 | 678 | 63 | 145 | 885 |
| 4 bedroom houses | 3 | 588 | 33 | 60 | 681 |
| 5 bedroom houses | 3 | 198 | 0 | 0 | 198 |
| Total | | 1,677 | 215 | 478 | 2,370 |

Source: West Sussex Country Council, (2022). Section 106: Planning obligations. (Ref.11.11), WSP calculations. (Numbers may not sum due to rounding)

11.6.18. Applying ONS annual household spending estimates per person, by region (£14,679.60) (**Ref. 11.2**) (**Table 11-17**) to the estimated 1,892 residents projected to reside at the Proposed Development in the private and intermediate dwellings results in a total net benefit (taking displacement and leakage into account) of approximately £18.7 million (m) per annum, as outlined in **Table 11-17**.

**Table 11-17 - Direct, Indirect and Induced Spend per Person**

| | Gross Direct Expenditure | Net Direct Expenditure (applying displacement of 0.25) | Net Indirect Expenditure (applying leakage of 0.10) | Total Net Expenditure per person |
|---|---|---|---|---|
| Total Spending (£) | 14,680 | 11,010 | 1,101 | 9,909 |

**Table 11-18 - Direct, Indirect and Induced Spend from Residents at the Proposed Development in West Sussex**

| | Gross Direct Expenditure | Net Direct Expenditure (applying displacement of 0.25) | Net Indirect Expenditure (applying leakage of 0.10) | Total Net Expenditure |
|---|---|---|---|---|
| Total Spending (£) | 27,773,803 | 20,830,352 | 2,083,035 | 18,747,317 |

Source: ONS, (2025); Family Spending (Ref. 11.2), WSP calculations.

11.6.19. Taking into account the additional net direct, indirect, and induced, generated by residents at the Proposed Development, it is assessed that the Proposed Development is likely to have a direct, permanent, long term minor beneficial (not significant) effect on the West Sussex economy prior to the implementation of mitigation measures.

**Mitigation / Enhancement**

11.6.20. There are no mitigation measures required or proposed for Socio-economics in relation to additional local spending by residents. It is not considered appropriate for there to be any monitoring arrangements.

**Residual Effects**

11.6.21. Given there is no mitigation in relation to additional local spending for Socio-economics, the pre-mitigation finding remains the same. Therefore, there is likely to be a direct, permanent, long-term minor beneficial (not significant) residual effect on the West Sussex economy.

**HOUSING**

11.6.22. The Emerging Local Plan considers a target of 480 homes per annum from 2023 – 2028, and then 901 homes for the remaining years of the Plan up to 2040.

11.6.23. The Proposed Development will contribute to meeting housing delivery targets by adding up to 1,000 dwellings to the existing stock of the Horsham District, which would contributes to the annual target outlined in the Emerging Local Plan. Although the occupation of homes will occur gradually over the planned construction phases, the additional 1,000 homes are considered to have a direct, permanent, long term moderate beneficial (significant) effect on meeting the target for new housing provision in Horsham District prior to the implementation of mitigation measures.

**Mitigation / Enhancement**

11.6.24. There are no mitigation measures required or proposed for Socio-economics in relation to the provision of housing. It is not considered appropriate for there to be any monitoring arrangements.

**Residual Effects**

11.6.25. Given there is no mitigation in relation to housing provision for Socio-economics, the pre-mitigation finding remains the same. Therefore, there is likely to be a direct, permanent, long-term moderate beneficial (significant) residual effect on meeting the target for new housing provision in Horsham District.

**AFFORDABLE HOUSING**

11.6.26. Affordable housing is made up of homes subsidised below market values, which at the Proposed Development is assumed to comprise Shared Ownership, Affordable Rent and Social Rent dwellings. The Emerging Local Plan (Ref. 11.14) outlines targets for on-site provision of 35% affordable housing in strategic greenspace allocations. In addition, the Emerging Local Plan outlines the target of “At least 70% of the affordable homes are provided as social rented and affordable rented homes, and 30% are provided as low-cost home ownership (to include shared ownership and / or First Homes”. Previously, the National Planning Policy Framework (Ref. 11.13) stated the requirement of First Home provision should equate to 25% of the proposed affordable homes however this no longer applies at the national scale and the need for First Homes will be determined by local planning authorities.

11.6.27. The Proposed Development, based on the provision of up to 1,000 homes, would include 350 (35%) affordable homes. Of the affordable homes, 245 (70%) are Social Rent tenure, whilst the remaining 105 (30%) are Intermediate Tenure.

11.6.28. The Proposed Development meets the target for affordable housing provision within new residential developments by providing 70% of the total as Social Rented and / or Affordable Rented homes as defined in the Emerging Local Plan. It is assessed that the provision of affordable housing of different sizes and tenures in the Horsham District will have a direct, permanent, long term moderate beneficial (significant) effect on meeting the target for new affordable housing provision in Horsham prior to the implementation of mitigation measures.

**Mitigation / Enhancement**

11.6.29. There are no mitigation measures required or proposed for Socio-economics in relation to the provision of affordable housing. It is not considered appropriate for there to be any monitoring arrangements.

### Residual Effects

11.6.30. Given there is no mitigation in relation to affordable housing provision for Socio-economics, the pre-mitigation finding remains the same. Therefore, there is likely to be a direct, permanent, long-term moderate beneficial (significant) residual effect on meeting the target for new housing provision in Horsham District.

## EDUCATION PROVISION

11.6.31. For the purposes of this assessment, child occupancy rates contained within Horsham s106 planning obligations contributions calculator (Ref. 11.11) and Wandsworth New Housing Survey 2004 (Ref. 11.12) have been applied to the indicative accommodation schedule of the Proposed Development to calculate the number of children requiring early education, primary and secondary school places.

11.6.32. The estimated child yields for education have been based on the indicative accommodation schedule outlined in **Volume 1, Chapter 3: Description of the Proposed Development**, with the resultant demand for education places outlined in **Table 11-19**. The number of children resident within the Proposed Development would increase gradually as the homes are built out over the estimated construction period of c. 13 years.

**Table 11-19 - Estimated Child Yields for Education Demand**

| | Early Years Education Places | Primary Education Places | Secondary Education Places | Total |
|---|---|---|---|---|
| Child Yield for Education | 139 | 142 | 139 | 420 |

Source: West Sussex Country Council, (2022) Section 106: Planning obligations contributions calculator (Ref. 11.11), WSP calculations

### Early Years Education Provision

11.6.33. There are 11 early years facilities within 2km of the Site, however there is no published information about the existing capacity at these facilities. It is understood that these facilities operate waiting lists however, and it is therefore likely (in line with the existing situation for primary schools) that there is some available capacity within these facilities currently. As it is not a statutory requirement for children to attend early years education, and take up of places is not universal among all 0-4 year olds, it is also not a requirement for the local education authority to ensure that there are early years places available for all children. While there may be provision of new facilities or expansion of existing early years providers during the construction of the Proposed Development, this is not guaranteed. It is recognised that not all children of early years age will attend early years facilities – the assumption is that 50% of children will require early years provision.

11.6.34. Due to the lack of publicly available data on the existing early years education places, it is assumed that limited early years spaces would become available in future years. The Proposed Development is anticipated to generate an increased demand of 139 early year education places. However, the Proposed Development includes the provision of a nursery to be delivered by the County Council alongside the proposed primary school. The proposed nursery would accommodate a minimum of

60 early education spaces and anticipated to considerably ease early years education space demand generated by the Proposed Development. It is therefore assessed that the increased demand for early years education places generated by the Proposed Development will have a direct, permanent, long-term negligible (not significant) effect on early years education provision in Horsham District prior to the implementation of mitigation.

### Mitigation / Enhancement

11.6.35. There are no mitigation measures required or proposed for Socio-economics in relation to the demand for early years education spaces. It is not considered appropriate for there to be any monitoring arrangements.

### Residual Effects

11.6.36. Given there is no mitigation in relation to the demand for early years education spaces for Socio-economics, the pre-mitigation finding remains the same. Therefore, there is likely to be a direct, permanent, long-term negligible (not significant) residual effect on meeting early years education provision in Horsham District.

**Primary Education Provision**

11.6.37. With respect to primary school places the baseline analysis shows that there is currently a surplus of 313 primary school places in Horsham District within 3.7km of the Site or a surplus of 203 places if a school is deemed at capacity if 95% of their places are taken up (as per Audit Commission guidance).

11.6.38. Overall, there is currently available capacity at primary schools within 2.7km of the Site to accommodate the additional children projected to reside at the Proposed Development (see **Table 11-7**). While it is likely that planned extensions within existing schools may take place during the construction of the Proposed Development leading to additional capacity becoming available, this is not guaranteed.

11.6.39. The Proposed Development includes the provision of a 1 Form Entry (FE) primary school expandable up to a 2FE to incorporate support centres for Special Educational Needs and Disability (SEND) facilities. A single form of entry (with classes from years reception to year six) accommodates 210 pupils, and therefore the proposed primary school could have capacity for up to 420 pupils on the basis of a 2FE primary school. This will serve the new resident population at the Proposed Development, and also increase capacity within the locality to serve demand from the wider district should additional housing developments come forward in the area. The timing of delivery will be dictated by West Sussex County Council depending on how local capacity evolves.

11.6.40. It is therefore assessed that both the increased demand for primary education places generated by the Proposed Development and the new primary school provision will have a direct, permanent, long-term minor beneficial (not significant) effect on primary education provision in Horsham District prior to the implementation of mitigation measures.

### Mitigation / Enhancement

11.6.41. There are no mitigation measures required or proposed for Socio-economics in relation to the demand for primary education spaces. It is not considered appropriate for there to be any monitoring arrangements.

### Residual Effects

11.6.42. Given there is no mitigation in relation to the demand for primary education spaces for Socio-economics, the pre-mitigation finding remains the same. Therefore, there is likely to be a direct, permanent, long-term minor beneficial (not significant) residual effect on meeting primary education provision in Horsham District.

**Secondary Education Provision**

11.6.43. With respect to secondary school places the baseline analysis shows that there is currently a surplus of 522 secondary school places in Horsham District within 5.6km of the Site, and there will be a surplus of 390 places if a school is deemed at capacity if 95% of their places are taken up. However, there is no secondary school in Southwater at present. It should be noted that changes to Millais School for Girls to accommodate boys from the locality will reduce the available capacity, as currently some boys have to attend school outside the locality.

11.6.44. The Proposed Development includes the provision of a 6FE secondary school expandable up to an 8FE to incorporate support centres for SEND facilities which could have capacity for up to 1,200 secondary age pupils. This will serve the new resident population at the Proposed Development, and also increase capacity within the locality to serve demand from the existing village of Southwater and the wider district.

11.6.45. As there is no school in the village at present, the proposed secondary school would be of benefit in terms of decreasing the distance that existing secondary school pupils resident in Southwater need to travel to reach school. Additionally existing and new resident pupils in Southwater would likely be able to travel to school on foot or by bike instead of bus or private car were no school to be provided on-site.

11.6.46. It is therefore assessed that both the increased demand for secondary education places generated by the Proposed Development and the new secondary school provision will have a direct, permanent, long-term moderate beneficial (significant) effect on secondary education provision in Southwater and more widely in Horsham District prior to the implementation of mitigation measures.

### Mitigation / Enhancement

11.6.47. There are no mitigation measures required or proposed for Socio-economics in relation to the demand for secondary education places. It is not considered appropriate for there to be any monitoring arrangements.

### Residual Effects

11.6.48. Given there is no mitigation in relation to secondary education provision for Socio-economics, the pre-mitigation finding remains the same. Therefore, there is likely to be a direct, permanent, long-term moderate beneficial (significant) residual effect on meeting secondary education provision in Horsham District.

## PRIMARY HEALTHCARE PROVISION

11.6.49. There are currently five GP surgeries located within 5km of the Site (considered to be a ‘typical’ catchment), with a total of 27.8 FTE GPs and an average list size of 2,430 registered patients per FTE GP; a higher (i.e. worse) level of provision than the 1,912 patients per FTE GP in South East England average (Ref. 11.5). The nearest surgery to the Site is the Village Surgery.

11.6.50. The indicative accommodation schedule will give rise to a projected population yield of 2,437 residents. Taking a 'worst-case scenario' in which all new residents register with a local GP, the additional residents would increase the average practice list size to 2,518 patients per GP which is an increase of 88 patients per GP.

11.6.51. It is therefore assessed that the increased demand for primary healthcare provision generated by the Proposed Development will have a direct, permanent, long-term minor adverse (not significant) effect on GP services in Horsham District prior to the implementation of mitigation measures.

**Mitigation / Enhancement**

11.6.52. It is proposed that Socio-economic mitigation in relation to the demand for primary healthcare would take the form of CIL contributions from new development (such as the Proposed Development) to fund new or enhanced primary healthcare provision. It is not considered appropriate for there to be any monitoring arrangements.

**Residual Effects**

11.6.53. It is assumed that mitigation in the form of CIL contributions is provided by the Applicant which will serve to reduce the impact of the Proposed Development on the demand for primary healthcare provision, therefore there is likely to be a direct, permanent, long-term negligible (not significant) residual effect on meeting GP provision in Horsham District following mitigation.

**OPEN SPACE PROVISION**

11.6.54. The Proposed Development could provide approximately 591,900m$^2$ (59.19ha) of amenity and landscaped space, with additional spaces for publicly accessible green infrastructure.

11.6.55. The Design and Access statement (DAS) which forms part of the supporting planning documents outlines the variety of spaces and key features for both residents, visitors and members of the public to enjoy. The key components of the Proposed Development comprise:

- 489,800m$^2$ (48.98 ha) of Natural and Semi natural Greenspace;
- 37,000m$^2$ (3.7ha) of Parks and Gardens;
- 60,800m$^2$ (6.08 ha) of Amenity Greenspace;
- 4,300 m$^2$ (0.43 ha) of allotments; and
- Publicly accessible green infrastructure, including Accessible Green Network Corridors (AGNS), and Accessible Sustainable Urban Drainage Systems (SUDS) (sizes of the publicly accessible green infrastructure areas are not available at the time of writing).

11.6.56. In light of the proposed provision of privately accessible landscaped open and amenity space, and publicly accessible landscaped amenity areas, it is therefore assessed that the Proposed Development will have a direct, permanent, long term moderate beneficial (significant) effect on open space provision in the locality, prior to the implementation of mitigation measures.

**Mitigation / Enhancement**

11.6.57. There are no mitigation measures required or proposed for Socio-economics in relation to open space provision. It is not considered appropriate for there to be any monitoring arrangements.

**Residual Effects**

11.6.58. Given there is no mitigation in relation to open space provision for Socio-economics, the pre-mitigation finding remains the same. Therefore, there is likely to be a direct, permanent, long-term moderate beneficial (significant) residual effect on open space provision local to the Site.

## CHILD PLAY SPACE PROVISION

11.6.59. The Horsham District Council Open Space, Sport and Recreation Review 2021 (Ref. 11.1) recommends a benchmark standard of 0.5m$^2$ of dedicated play space per child and 0.4m$^2$ per young people should be provided for in new developments in the district.

11.6.60. In order to calculate the estimated number of children aged 0-17 residing within the Proposed Development, the Horsham s106 planning obligations contribution calculator (Ref. 11.11) and Wandsworth New Housing Study 2004 (Ref. 11.12) have been used to obtain the child yield arising from the Proposed Development. It should be noted that this method differs to that used to calculate education requirements, and results in an estimated 637 children projected to reside at the Proposed Development, as outlined in **Table 11-20**.

**Table 11-20 - Estimated Play Space Requirement**

| Age Group (years) | Number of Children | Total Play Space (m$^2$) recommended by the Review | Total Play Space (m$^2$) provided at the Proposed Development |
|---|---|---|---|
| Under 5 | 279 | 254.5 | 2,000m$^2$ (0.2ha) of play space for children |
| 5-11 | 230 | | |
| 12+ years | 128 | 51.2 | 900m$^2$ (0.09ha) of play space for young people |
| **Total** | **637** | **306** | **2,900** |

Source: Knight, Kavanagh & Page, (2021) (Ref. 11.1), WSP research.

11.6.61. Applying guidance within the Horsham District Council Open Space, Sport and Recreation Review 2021 (Ref. 11.1) there is a requirement for 306m$^2$ of play space to serve the 637 children aged 0-17 projected to reside within the Proposed Development.

11.6.62. The Proposed Development could provide up to 2,900m$^2$ of dedicated child play space comprising:

- Children play space, comprising approximately 2,000m$^2$; and
- Young people's play and informal recreation space, comprising approximately 900m$^2$.

11.6.63. The proposed provision of on-site play space meets the standard outline within the Horsham District Council Open Space, Sport and Recreation Review, the Proposed Development is anticipated to have a direct, permanent, long-term minor beneficial (not significant) effect on play space provision in the local area surrounding the Site prior to the implementation of mitigation measures.

**Mitigation / Enhancement**

11.6.64. There are no mitigation measures required or proposed for Socio-economics in relation to play space provision. It is not considered appropriate for there to be any monitoring arrangements.

**Residual Effects**

11.6.65. Given there is no mitigation in relation to play space provision for Socio-economics, the pre-mitigation finding remains the same. Therefore, there is likely to be a direct, permanent, long-term minor beneficial (not significant) residual effect on play space provision local to the Site.

## 11.7 ASSESSMENT AGAINST FUTURE BASELINE

11.7.1. It is anticipated that in the absence of the Proposed Development, a number of demographic factors would be likely to change due to natural fluctuation and change, including total population and a proportion of working age, with population trends also seeing an ageing population who may place a greater demand of local services such as healthcare.

11.7.2. The provision of a nursery, primary school and secondary school as part of the Proposed Development would ensure that additional educational needs as a result of population growth are met.

11.7.3. In terms of economic growth, West Sussex has a strong local and regional economy. It is likely to continue growing, with inward investment and business activity expected to remain strong. Demand for housing, affordable housing and healthcare and education provision is anticipated to continue, in line with projected population growth as identified in Section 11.4 and Horsham's housing delivery targets.

## 11.8 OPPORTUNITIES FOR ENVIRONMENTAL ENHANCEMENT

11.8.1. No further enhancement has been identified for Socio-economics.

## 11.9 DIFFICULTIES AND UNCERTAINTIES

11.9.1. The assessment of the significance of effects has been carried out against a benchmark of current socio-economic baseline conditions prevailing around the Site. As with any dataset, these may be subject to change over time, which may influence the findings of the assessment and could lead to the assessment being subject to statistical time.

11.9.2. Given that the Horsham s106 calculator only provides estimates for child yield for ages four and above, the Wandsworth New Housing Study has been used for estimating child yield for ages 0 to 3. This provides a ready reckoner for the Proposed Development, based on past experience of new residential developments of a similar scale and location.

## 11.10 SUMMARY

11.10.1. **Table 11-21** provides a summary of the findings of the assessment.

**Table 11-21 - Summary of Socio-economic effects**

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Construction Phase** | | | | | |
| Local and regional (West Sussex) economy | Construction employment generation | **Minor Beneficial (not significant)** T / D / LT | None required | **Minor Beneficial (not significant)** T / D / LT | None required |
| **Operational Phase** | | | | | |
| Local and regional (West Sussex) economy | Operational employment generation | **Minor Beneficial (not significant)** P / D / LT | None required | **Minor Beneficial (not significant)** P / D / LT | None required |
| Local and regional (West Sussex) economy | Additional local spend | **Minor Beneficial (not significant)** P / D / LT | None required | **Minor Beneficial (not significant)** P / D / LT | None required |
| Horsham District housing stock | Housing provision | **Moderate Beneficial (significant)** P / D / LT | None required | **Moderate Beneficial (significant)** P / D / LT | None required |
| Horsham District affordable housing stock | Affordable housing provision | **Moderate Beneficial (significant)** P / D / LT | None required | **Moderate Beneficial (significant)** P / D / LT | None required |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Early years education provision | Demand for early years education places | **Negligible (not significant)**<br>P / D / LT | None required | **Negligible (not significant)**<br>P / D / LT | None required |
| **Receptor** | **Potential Effects** | **Significance of Effects Prior to Mitigation / Enhancement** | **Additional Mitigation** | **Residual Effects** | **Monitoring** |
| Primary education provision | Demand for primary education places | **Minor Beneficial (not significant)**<br>P / D / LT | None required | **Minor Beneficial (not significant)**<br>P / D / LT | None required |
| Secondary education provision | Demand for secondary education places | **Moderate Beneficial (significant)**<br>P / D / LT | None required | **Moderate Beneficial (significant)**<br>P / D / LT | None required |
| Primary healthcare provision | Demand for primary healthcare | **Minor Adverse (not significant)**<br>P / D / LT | CIL contributions which are proportionate to the demand generated by the Proposed Development to be agreed between the Applicant and Horsham District Council | **Negligible (not significant)**<br>P / D / LT | None required |
| Open space provision | Demand for open space | **Moderate Beneficial (significant)**<br>P / D / LT | None required | **Moderate Beneficial (significant)**<br>P / D / LT | None required |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Play space provision | Demand for play space | **Minor Beneficial (not significant)**<br>P / D / LT | None required | **Minor Beneficial (not significant)**<br>P / D / LT | None required |

Key to table: **P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable**

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WSP House
70 Chancery Lane
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**wsp.com**

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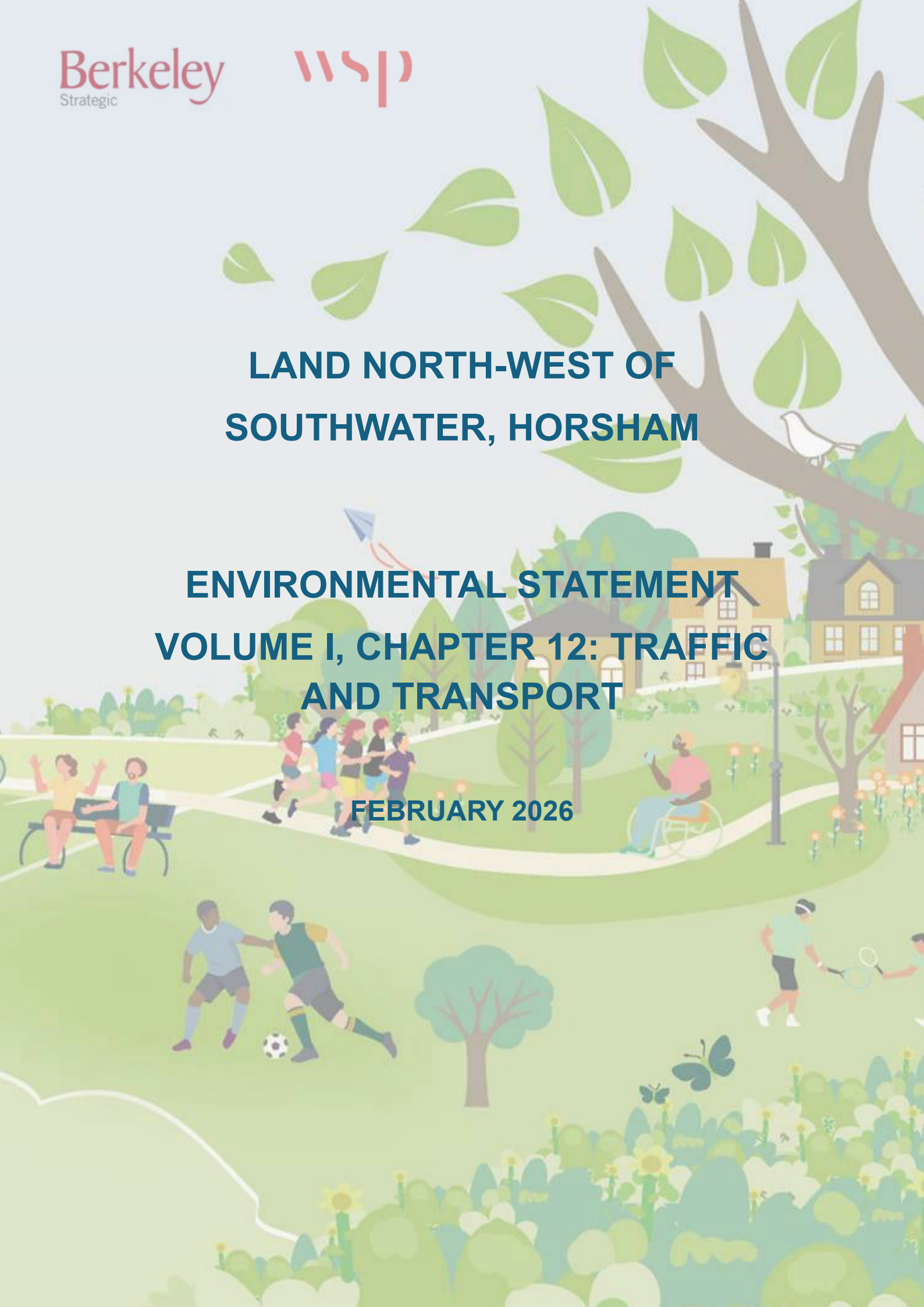

# LAND NORTH-WEST OF SOUTHWATER, HORSHAM

# ENVIRONMENTAL STATEMENT VOLUME I, CHAPTER 12: TRAFFIC AND TRANSPORT

FEBRUARY 2026

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# 12. TRAFFIC AND TRANSPORT

## 12.1. INTRODUCTION

12.1.1. This chapter reports the outcome of the assessment of likely significant effects arising from the Proposed Development upon traffic and transport. This chapter is supported by a **Transport Assessment (TA)** that accompanies the application and is included in **Volume 2**, **Appendix 12.1**.

12.1.2. The assessment of traffic and transport has established that the following additional mitigation measures are required:

- Construction Logistics Plan (CLP) or similar – Construction Phase; and
- Travel Plan(s) – Operational Phase.

12.1.3. Residual effects have been determined for this chapter, based upon Table 5.2 Matrix of Classifying Effects in **Volume 1, Chapter 5: Approach to EIA.**

12.1.4. The remainder of this chapter describes the assessment methodology and the baseline conditions relevant to the assessment, which have been used to reach these conclusions, as well as a summary of the likely significant effects leading to the additional mitigation measures required to avoid, prevent, reduce or, if possible, offset any likely significant adverse effects, and the likely residual effects and any required monitoring after these measures have been employed. Opportunities for environmental enhancement, where such opportunities exist, are also discussed.

12.1.5. This chapter (and its associated figures and appendices) is intended to be read as part of the wider ES, with particular reference to **Volume 1, Chapter 6: Air Quality**, **Volume 1, Chapter 10: Noise and Vibration** and the **Climate Risk and Resilience Report.** This chapter should also be read in conjunction with the submitted **Transport Assessment (TA)** (**Volume 2**, **Appendix 12.1**) and **Framework Travel Plan** (**FTP**) (**Volume 2, Appendix 12.2**).

## 12.2. CONSULTATION, SCOPE, METHODOLOGY AND SIGNIFICANCE CRITERIA

### CONSULTATION UNDERTAKEN TO DATE

12.2.1. **Table 12-1** provides a summary of the consultation activities undertaken in support of the preparation of this assessment.

**Table 12-1 - Summary of Consultation Undertaken**

| Body / Organisation | Individual / Stat Body / Organisation | Meeting Dates and Other Forms of Consultation | Summary of Outcome of Discussions |
|---|---|---|---|
| West Sussex County Council (WSCC) | Highway Authority | 24 July 2025<br>30 September 2025<br>10 December 2025 | Identify appropriate methodology for assessment.<br>Consider traffic generation<br>On-site meeting to discuss potential walking and cycling constraints and potential opportunities. |

| Body / Organisation | Individual / Stat Body / Organisation | Meeting Dates and Other Forms of Consultation | Summary of Outcome of Discussions |
|---|---|---|---|
| Horsham District Council (HDC) | Planning Authority | 10 December 2025 | Provide update on assessment methodology and phasing options. |
| Horsham District Cycle Forum | Cycle Forum | 16 October 2025 | Identify priority cycle corridors for further assessment to inform the walking and cycling strategy. |

12.2.2. In addition to the above transport specific meetings, the project team have undertaken further engagement with stakeholders as set out within **Volume 1**, **Chapter 4: Reasonable Alternatives Considered** which will have included some elements of transport, especially on masterplan design.

## SCOPE OF THE ASSESSMENT

12.2.3. The scope of this assessment has been established through an ongoing scoping process. Further information can be found in **Volume 1**, **Chapter 5: Approach to EIA**.

12.2.4. This section provides an update to the scope of the assessment and re-iterates the evidence base for scoping out elements following further iterative assessment.

12.2.5. The methodology and guidelines for assessing the likely traffic and transport impacts is based upon the Institute of Environmental Management and Assessment (IEMA) (now Institute of Sustainability & Environmental Professionals – 'ISEP') Guidelines entitled 'Environmental Assessment of Traffic and Movement', 2023, - referred to herein as the 'ISEP guidelines' (**Ref 12.1**) - and in accordance with the Government's planning policies for England as set out in the National Planning Policy Framework (NPPF) (December 2024) (**Ref 12.2**).

12.2.6. The guidance contained in the ISEP guidelines provides advice specifically aimed at the effects of transport and traffic. It defines the effects that should be regarded as a material consideration and then considers the weight to which those effects should be defined. The guidelines set out, inter alia, a list of environmental effects, which could be considered as potentially material or significant whenever a new development is likely to give rise to changes in traffic flows.

12.2.7. The ISEP guidelines suggests that an increase in traffic associated with a development has the potential to result in impacts relating to the following matters during both the construction and the operational phases of the development:

- Severance;
- Driver Delay;
- Pedestrian and Cyclist Delay;
- Pedestrian and Cyclist Amenity;
- Fear and Intimidation; and
- Accidents and Safety.

12.2.8. However, and as acknowledged in the ISEP guidelines, delays are only likely to be significant when the traffic in the network is already, or close to, the capacity of the system.

12.2.9. An assessment of the local highway network and its capacity at the key junctions and links carried out as part of the **TA** (see **Chapter 9 of Volume 2**, **Appendix 12.1**) is considered to be sufficient as it identifies locations where the network may reach its capacity. The TA also sets out appropriate mitigation strategies (where needed) to minimise the impacts of the proposals in respect to driver delay. As such, it is considered appropriate to scope out driver delay from the assessment undertaken as part of this ES Traffic and Transport Chapter.

12.2.10. Similarly, matters relating to accidents and safety are addressed within Chapter 3 of the TA including a review of the Personal Injury Accident (PIA) records on the local highway network across a 5-year study period and the potential implications associated with the Proposed Development. The conclusions of this assessment are that the local road network is not subject to any underlying road safety issues that may be exacerbated by the Proposed Development – particularly after accounting for the mitigation measures that will be implemented as part of the scheme. To this end, matters relating to accidents and safety are scoped out from the assessment undertaken as part of this ES Traffic and Transport Chapter.

**ELEMENTS SCOPED OUT OF THE ASSESSMENT**

12.2.11. The elements shown in **Table 12-2** are not considered to give rise to likely significant effects as a result of the Proposed Development and have therefore not been considered within this assessment:

**Table 12-2 - Elements Scoped Out of the Assessment**

| Element Scoped Out | Justification |
|---|---|
| Accidents and Safety | Assessed and addressed in **Chapter 3** of the TA (**Volume 2, Appendix 12.1**) |
| Driver Delay | Assessed and addressed in **Chapter 9** of the TA (**Volume 2, Appendix 12.1**) |

**ELEMENTS SCOPED INTO THE ASSESSMENT**

**Construction Phase**

12.2.12. The following elements are considered to have the potential to give rise to likely significant effects during construction of the Proposed Development and have therefore been considered within this assessment:

- Severance;
- Pedestrian and Cyclist Delay;
- Pedestrian and Cyclist Amenity; and
- Fear and Intimidation.

**Operation Phase**

12.2.13. The following elements are considered to have the potential to give rise to likely significant effects during operation of the Proposed Development and have therefore been considered within this assessment:

- Severance;
- Pedestrian and Cyclist Delay;

- Pedestrian and Cyclist Amenity; and
- Fear and Intimidation.

## 12.3. LEGISLATIVE FRAMEWORK, POLICY AND GUIDANCE

### LEGISLATIVE FRAMEWORK

12.3.1. There are no relevant legislative documents that have been directly referred to in the preparation of this chapter.

### POLICY

12.3.2. Relevant policy and plans associated with Traffic and Transport are:

- West Sussex Transport Plan (WSTP) 2022-2036;
- Horsham District Planning Framework;
- Horsham Local Plan 2019-2036 Regulation 18 Draft;
- Horsham Local Plan 2021-2038 Regulation 19 Draft; and
- Southwater Neighbourhood Development Plan (2019-2031).

12.3.3. In addition, this chapter has been prepared in accordance with the Government's National Planning Practice Guidance (**Ref. 12.3)**.

12.3.4. A detailed review of the relevant policy outlined above are concluded in **Chapter 2** of the TA in **Volume 2, Appendix 12.1**.

### GUIDANCE

12.3.5. The following guidance documents have been used during the preparation of this chapter:

- Institute of Environmental Management and Assessment (IEMA) (now Institute of Sustainability and Environmental Professionals (ISEP's)) 'Environmental Assessment of Traffic and Movement' (**Ref. 12.1**);
- Design Manual for Roads and Bridges (DMRB) LA104 Environmental Assessment and Monitoring (**Ref. 12.4**);
- Design Manual for Roads and Bridges (DMRB) LA112 Population and Human Health (**Ref. 12.5**); and
- Department for Transport TAG Unit A4-1 Social Impact Appraisal guidance (**Ref. 12.6**).

12.3.6. Professional experience and judgement, including the methodologies set out herein, have also been utilised.

### EXTENT OF THE STUDY AREA

12.3.7. The Site location is set out in detail in **Volume 1, Chapter 3: Description of the Proposed Development**. The extent of the overall study area of transport related impacts is taken from HDC's strategic SATURN model , **Figure 12-1**.presents the extent of the model.

## LINK SCREENING

12.3.8. The ISEP Guidelines (**Ref 12.1**) provides the following criteria to assist in determining which highway links should be assessed as part of an EIA:

> "Highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%)"; and
> "Highway links of high sensitivity where traffic flows have increased by 10% or more".

12.3.9. **Table 12-3** presents the highway links that meet the criteria above and therefore require assessment. The locations of the highway links are illustrated on **Figure 12.2: Assessment Highway Links,** the scope of assessment was agreed with WSCC highways through the scoping stages of the report.

**Table 12-3 - Key Highway Links within the Study Area**

| ES Ref (Link) | Road Link |
|---|---|
| 1 | Slip Road going north from Worthing Road / Hop Oast Roundabout |
| 2A | Worthing Road between A24 Slip Road and P1 Primary point of access |
| 2B | Worthing Road between P1 Primary point of access and New Road |
| 2C | Worthing Road between New Road and Southwater Street |
| 3A | Worthing Road between Southwater Street and Cedar Drive |
| 3B | Worthing Road between Cedar Drive and Church Lane |
| 4 | Southwater Street |
| 5 | Church Lane |
| 6A | Two Mile Ash Road between Marlpost Road and P4 Primary point of access |
| 6B | Two Mile Ash Road between P4 Primary point of access and Christ's Hospital Road |
| 6C | Two Mile Ash Road, north of Christ's Hospital Road |
| 7 | Christ's Hospital Road |
| 8 | Weston's Hill, north of Christ's Hospital Road |
| 9 | Fulford's Road |
| 10 | Blackbridge Lane, Horsham |
| 11 | Hill Farm Lane, Horsham |

## METHOD OF BASELINE DATA COLLATION

### DESK STUDY

12.3.10. HDC's strategic SATURN model has been used to establish baseline traffic flows and the impact of the Proposed Development in terms of changes in traffic on the highway network. This process is described in more detail within **Chapter 9** of the TA (**Volume 2, Appendix 12.1**)

### SITE VISIT AND SURVEYS

12.3.11. A Site visit was undertaken on 30th September 2025, with WSCC to help inform the scope of assessment and the existing conditions.

12.3.12. A number of traffic surveys have also been commissioned by WSP or obtained from West Sussex County Council (WSCC) / Horsham District Council (HDC), as part of the assessment work for the Proposed Development. Details around the traffic surveys used are included in the Pre-COVID and Post-COVID traffic flow comparisons Technical Note which is **Annex H** of (**Volume 2, Appendix 12.1**) of the TA

### ASSESSMENT METHODOLOGY

#### MAGNITUDE OF IMPACT

12.3.13. The ISEP Guidelines (**Ref 12.1**) set out considerations, and in some cases thresholds, in respect to changes in the volume and composition of traffic.

12.3.14. The assessment methodology for defining the magnitude of traffic and transport impacts has been derived from the ISEP Guidelines (**Ref 12.1**) and is set out below. Where no guidance is available, commonly agreed thresholds for judging the magnitude of traffic and transport impacts and professional judgement, backed-up by data / quantified information has been applied.

12.3.15. Dependent on the magnitude of impact, the effect on receptors can be beneficial or adverse or neutral if there is no change. An impact may also be classed as temporary or permanent.

12.3.16. The assessment undertaken to determine the magnitude of impact of each assessment category is discussed below.

*Severance and Non-motorised User Delay*

12.3.17. The Proposed Development may have an impact on pedestrian severance. The ISEP Guidelines defines severance as "*a complex series of factors that separate people from places and other people. Severance may result from the difficulty of crossing a heavily trafficked road or a physical barrier created by infrastructure*".

12.3.18. Several factors can cause changes in severance ranging from road width, traffic volume, traffic speeds and the availability of pedestrian crossing facilities.

12.3.19. The ISEP Guidelines set out a range of indicators for determining the magnitude of impact on pedestrian and cyclist severance. Changes in total traffic flow of 30% are regarded as producing 'low', 60% as 'medium' and 90% as 'high' changes. The ISEP Guidelines also state that "*caution needs to be observed when applying these thresholds as very low baseline flows are unlikely to experience severance impacts even with high percentage changes in traffic.*"

12.3.20. The ISEP Guidelines states that:

12.3.21. "*Pedestrian delay and severance are closely related effects and can be grouped together. Changes in the volume, composition or speed of traffic may affect the ability of people to cross roads. In general, increases in traffic levels are likely to lead to greater increases in delay. Delays will also depend on the general level of pedestrian activity, visibility and general physical conditions of the development site*".

12.3.22. As there is no formal or published guidance for the assessment of pedestrian and cyclist delay, the ISEP Guidelines recommends assessors use their professional judgement to determine the significance of effects.

12.3.23. However, the ISEP Guidelines suggest the use of the Department for Transport (DfT) TAG Unit A4-1 Social Impact Appraisal guidance which sets out guidance on assessing the hindrance of pedestrian movements and the Design Manual for Roads and Bridges (DMRB) LA 112 – Population and Human Health which contains sensitivity values for walkers, cyclists and horse riders based on traffic flow thresholds.

12.3.24. Table 3.11 of the DMRB LA 112 sets out the following thresholds for total daily vehicle flow:

- Very low – Change in delay ≤ 4,000;
- Low – Change in delay > 4,000 and ≤ 8,000;
- Medium – Change in delay > 8,000 and ≤ 16,000; and
- High – Change in delay > 16,000.

12.3.25. The DfT TAG Unit A4-1 Social Impact Appraisal guidance on assessing severance provides a matrix for assessing the impact of projects on severance based on the difference in the level of severance for the With and Without Proposal scenarios. These were classified according to the following four broad levels:

- *"None - Little or no hindrance to pedestrian movement.*
- *Slight - All people wishing to make pedestrian movements will be able to do so, but there will probably be some hindrance to movement.*
- *Moderate - Pedestrian journeys will be longer or less attractive; some people are likely to be dissuaded from making some journeys on foot.*
- *Severe - People are likely to be deterred from making pedestrian journeys to an extent sufficient to induce a reorganisation of their activities. In some cases, this could lead to a change in the location of centres of activity or to a permanent loss of access to certain facilities for a particular community. Those who do make journeys on foot will experience considerable hindrance".*

*Non-motorised User Amenity*

12.3.26. Pedestrian amenity can be defined as the relative pleasantness of a journey which could be affected by traffic flow, traffic composition, pavement width / separation from traffic, and are specific to local conditions. Professional judgement has been used to determine the magnitude of impact based on the elements set out above.

12.3.27. To determine the sensitivity of links for the assessment of non-motorised user amenity, several factors are considered and have been determined in Section 12.5, paragraph 12.5.2.

*Fear and Intimidation*

12.3.28. The ISEP Guidelines sets out in paragraph 3.33 that the extent of fear and intimidation is dependent on:

- *"The total volume of traffic;*
- *The heavy vehicle composition of traffic;*
- *The speed at which vehicles are passing; and*
- *The proximity of traffic to people – and / or the feeling of the inherent lack of protection created by factors such as a narrow pavement median, a narrow path or a constraint (such as a wall or fence) preventing people stepping further away from moving vehicles".*

12.3.29. Professional judgement has been used to determine the magnitude of impact based on the elements set out above.

**Significance Criteria**

12.3.30. The significance level attributed to each effect has been assessed based on the sensitivity / value of the affected receptor(s) and the magnitude of change arising from the Proposed Development, as well as a number of other factors that are outlined in more detail in **Volume 1**, **Chapter 5: Approach to EIA**. The sensitivity of the affected receptor is assessed on a scale of high, medium, low and negligible, and the magnitude of change is assessed on a scale of large, medium, small, negligible and no change, as set out in **Volume 1**, **Chapter 5: Approach to EIA**.

**Effect Significance**

12.3.31. The following terms have been used to define the significance of the effects identified and apply to both beneficial and adverse effects:

- Major beneficial or adverse effect – where the Proposed Development would cause a large improvement (or deterioration) to the existing environment;
- Moderate beneficial or adverse effect – where the Proposed Development would cause a noticeable improvement (or deterioration) to the existing environment;
- Minor beneficial or adverse effect – where the Proposed Development would cause a small improvement (or deterioration) to the existing environment; and
- Negligible – no discernible improvement or deterioration to the existing environment as a result of the development.

12.3.32. As set out in **Volume 1, Chapter 5: Approach to EIA**, effects that are classified as **moderate or above** are considered to be **significant**. Effects classified as **below moderate** are considered to be **not significant**.

**Assessment Scenarios and Establishment of Development Traffic Flows**

12.3.33. The following assessment scenarios are used in this chapter:

- 2036 Reference Case Do Minimum (RCDM) - 2036 Forecast Baseline – Reference Case (Baseline Traffic including Cumulative Development) Without Proposed Development; and
- 2036 Reference Case Do Something (RCDS) - 2036 Forecast Baseline – (Baseline Traffic including Cumulative Development) With Proposed Development (Operational Phase).

12.3.34. The methodology used for establishing traffic flows in the construction phase is outlined below. The methodology used for establishing traffic flows in the operational phase scenarios is set out in **Chapter 9** of the TA (**Volume 2, Appendix 12.1**). In summary, HDC's strategic SATURN model has been utilised to establish the forecast the distribution of the development and forecast baseline traffic flows on the local and wider network.

12.3.35. Both 2036 scenarios include cumulative developments and therefore cumulative effects have been taken into account within the assessment.

*Construction Phase*

12.3.36. In relation to the construction phase, this is only indicative at this stage and it is acknowledged that these assumptions may change as the project progresses. For the purposes of the assessments within this chapter, all vehicles associated with construction activity will route to the Site via the A24 Hop Oast roundabout, although the exact routes will be agreed with the Applicant / contractor and WSCC prior to commencement of construction work.

12.3.37. For the purposes of the assessments within this chapter, it is assumed that all construction traffic would then route from the A24 via the Hop Oast roundabout with a 50 / 50 distribution to the north / south along the A24. Traffic would then be evenly distributed along the A24 north, A24 south, A264 Dorking Road, A272 West Chiltington Lane and A272 Cowfold Road.

12.3.38. Construction access to the Site shall be provided at the northern end of Worthing Road (Link 2C) for all / some of the construction duration - i.e. close to the Hop Oast roundabout. It is acknowledged that there may be additional construction accesses onto other parts of the Site however it is envisaged that the impact during construction would be minimal for any such element.

12.3.39. Considering the scale of the Site and the different elements of the Proposed Development (i.e. different land uses such as commercial, educational and residential), the calculations to estimate forecast vehicular demand and traffic distribution have been based on a range of factors and assumptions from experience of similar Sites. In particular, it is envisaged that residential build-out rate will be approximately 100 units per year, however for the purposes of robustness, it is assumed for this exercise to be up to 125 units per year.

12.3.40. In summary, the average number of vehicular trips associated with Site personnel and deliveries / construction works are summarised below in **12-4**. All movements are two-way. Further details are provided in the TA (**Volume 2, Appendix 12.1**).

**Table 12-4 - Projected Construction Traffic (Two-Way) – Annual Average Daily Traffic (AADT)**

| Vehicular Demand | Daily - AADT | |
|---|---|---|
| | Total Vehicles | Heavy Duty Vehicles (HDVs) |
| **No. Veh.** | 220 | 34 |

12.3.41. The forecasted distribution of vehicles along the different routes is provided below in **Table 12-5**. Further away from these links, the number of construction vehicles will reduce from these values and therefore these links are considered the links most likely to be impacted.

**Table 12-5 - Projected Distribution of Construction Traffic**

| Route | % Distribution | | Daily - AADT | |
|---|---|---|---|---|
| | Total Vehicles | HDVs | Total Vehicles | HDVs |
| Link 2: Worthing Road (North of Southwater Street) | 100% | 100% | 220 | 34 |
| Link 12: A24 (North of Hop Oast) Northbound | 20% | 20% | 44 | 7 |
| Link 13: A24 (North of Hop Oast) Southbound | 20% | 20% | 44 | 7 |
| Link 14: A24 (South of Hop Oast) Northbound | 30% | 30% | 67 | 11 |
| Link 15: A24 (South of Hop Oast) Southbound | 30% | 30% | 67 | 11 |

## 12.4. BASELINE CONDITIONS

12.4.1. Details regarding the baseline highway conditions and future highway conditions can be found in **Chapter 3** the Transport Assessment (**Appendix 12.1**)

## 12.5. SENSITIVE RECEPTORS

12.5.1. The ISEP Guidelines (**Ref 6.1**) sets out locations which could be determined to be sensitive. **Table 12-6** below shows the assessed sensitivity of highway and PRoW links for the following assessment categories:

- Severance of Communities;
- NMU Delay and Amenity; and
- Fear and Intimidation.

12.5.2. The value of the sensitivity of the highway link (High, Medium, Low or Negligible) is based on the presence and proximity of sensitive receptors such as hospitals, schools, nurseries, nursing homes, a high concentration of residential dwellings and facilities and amenities, areas with high tourist footfall, significant pedestrian / cycle desire lines to the highway link.

**Table 12-6 - Link Sensitivity**

| ES Ref (Link) | Road Link | Receptor Sensitivity | Justification |
|---|---|---|---|
| 1 | Slip Road going north from Worthing Road / Hop Oast Roundabout | Negligible | No sensitive receptors, no NMUs expected |
| 2 | Worthing Road – A24 Slip Road Roundabout to Southwater Street | Medium | Medium density residential road, bus route, 40 and 30 mph speed limit. NMUs expected. |

| ES Ref (Link) | Road Link | Receptor Sensitivity | Justification |
|---|---|---|---|
| 3 | Worthing Road – Southwater Street to Church Lane | High | High density residential road, traffic calming, school, nursery, GP Surgery, amenities, bus route, 30 and 20 mph speed limit. High number of NMUs expected. |
| 4 | Southwater Street | Medium | Medium density residential road, 30 and 40 mph speed limit. NMUs expected. |
| 5 | Church Lane | Medium | Medium density residential road, children's playground 30 mph speed limit. NMUs expected. |
| 6 | Two Mile Ash Road | Low | Low density residential road, no footway, bus route, 30 / 40 mph speed limit. Low number of NMUs expected. |
| 7 | Christ's Hospital Road | High | High density residential road, boarding school, retirement village, bus route, 30 and 20 mph speed limit. High number of NMUs expected. |
| 8 | Weston's Hill (north of Christ's Hospital Road) | Low | Low density residential road, no footway. Low number of NMUs expected. |
| 9 | Fulford's Road | Low | Low density residential road, no footway. Low number of NMUs expected. |
| 10 | Blackbridge Lane, Horsham | High | High density residential road, family hub, amenities, bus route, sports ground, 30 mph speed limit. High number of NMUs expected. |
| 11 | Hill Farm Lane, Horsham | High | High density residential road, sports ground, bus route, 30 mph speed limit. Cycle route. High number of NMUs expected. |
| 12 | The Downs Link where it crosses Worthing Road | Medium | (DMRB LA112) Walking Cyclists Horse Riding:<br>1) public rights of way and other routes close to communities which are used for recreational purposes (e.g. dog walking), but for which alternative routes can be taken. These routes are likely to link to a wider network of routes to provide options for longer, recreational journeys, and / or<br>2) rights of way for WCH crossing roads at grade with >4000 – 8000 vehicles per day. |

12.5.3. All key sensitive receptor locations in relation to highway links are shown on **Figure 12.2**.

## 12.6. ASSESSMENT OF POTENTIAL EFFECTS, MITIGATION AND RESIDUAL EFFECTS

### CONSTRUCTION PHASE

12.6.1. Construction flows have been applied directly to the Reference Base Case 2024 traffic flows from the traffic model as shown in **Table 12-7**. The 2024 Base case flows have been used to assess the forecast construction traffic as it does not include any background growth which will mean it will have the highest proportional impact, i.e. a robust assessment. It is likely that the peak construction will occur during the early years of construction.

12.6.2. **Table 12-7** shows that the only link that meets the assessment criteria for further investigation is Link 2: Worthing Road (North of Southwater Street).

**Table 12-7 - Construction Phase Total Flows**

| Route | 2024 Reference Base Case Total AADT | 2024 Reference Base Case HGV AADT | Development Construction Vehicles AADT | Combined AADT | Total Change % | Development Construction Vehicles HGV AADT | HGV Change % |
|---|---|---|---|---|---|---|---|
| Link 2: Worthing Road – A24 Slip Road Roundabout to Southwater Street | 9733 | 143 | 220 | 9953 | 2% | 34 | 24% |
| Link 13: A24 (North of Hop Oast) Northbound | 14649 | 463 | 44 | 14693 | 0% | 7 | 2% |
| Link 14: A24 (North of Hop Oast) Southbound | 19335 | 464 | 44 | 19379 | 0% | 7 | 2% |
| Link 15: A24 (South of Hop Oast) Northbound | 14514 | 476 | 67 | 14581 | 0% | 11 | 2% |
| Link 16: A24 (South of Hop Oast) Southbound | 15934 | 431 | 67 | 16001 | 0% | 11 | 3% |

12.6.3. **Table 12-8** presents the assessment of potential effects, additional mitigation, residual effects and monitoring during construction of the Worthing Road link.

**Table 12-8 - Assessment of potential effects, additional mitigation, residual effects and monitoring during construction**

| | |
|---|---|
| **Sensitive Highway Link** | **Link 2 - Worthing Road – Hop Oast Roundabout to Southwater Street - NMUs of pedestrian and cycling facilities** |
| **Potential effects** | The sensitivity of Worthing Road – Hop Oast Roundabout to Southwater Street is **medium.**<br>**Severance**<br>The magnitude of change is **negligible** (based on total flow change and HGV% change). Therefore, there is likely to be a direct, temporary, short-term **negligible adverse** effect on NMUs using this link (**not significant**).<br>**NMU Delay**<br>The magnitude of change is **negligible** (based on total traffic flow change and HGV% change). Therefore, there is likely to be a direct, temporary, short-term **negligible adverse** effect on NMUs using this link (**not significant**).<br>**NMU Amenity**<br>The magnitude of change is **negligible** (based on total vehicle flow, % HGV composition, speed). Therefore, there is likely to be a direct, temporary, short-term **negligible adverse** effect on NMUs using this link (**not significant**).<br>**Fear and Intimidation**<br>The magnitude of change is **negligible** (based on total traffic flow change, % HGV composition, speed). Therefore, there is likely to be a direct, temporary, short-term **negligible adverse** effect on NMUs using this link (**not significant**). |
| **Additional mitigation** | None required |
| **Residual effects and monitoring** | The sensitivity of Worthing Road – Hop Oast Roundabout to Southwater Street is **medium.** The magnitude of change is **negligible**. Therefore, there is likely to be a direct, temporary, short-term **negligible adverse** effect on NMUs using this link (**not significant**) for **Severance, NMU Delay, NMU Amenity** and **Fear and Intimidation.** |

## OPERATIONAL PHASE

12.6.4. All links experiencing a change in traffic flows which meet the criteria for further assessment are presented in **Table 12-9**. This should also be read in conjunction with the Limitations section of the ES.

**Table 12-9 - Highway Links Meeting the ISEP Criteria for Assessment (Operational Phase) RCDS traffic flows**

| Link Ref. | | Total Veh. Base Case (AADT) | Total Veh. With Development Case (AADT) | % Change | Total Veh. HDV Base Case (AADT) | HDV With Development Case (AADT) | % Change HDV |
|---|---|---|---|---|---|---|---|
| 1 | Slip Road going north from Worthing Road / Hop Oast Roundabout | 5,555 | 6,213 | 12% | 35 | 51 | 46% |
| 2A | Worthing Road between A24 Slip Road and P1 Primary point of access | 9,507 | 17,904 | 88% | 92 | 103 | 12% |

| Link Ref. | | Total Veh. Base Case (AADT) | Total Veh. With Development Case (AADT) | % Change | Total Veh. HDV Base Case (AADT) | HDV With Development Case (AADT) | % Change HDV |
|---|---|---|---|---|---|---|---|
| 2B | Worthing Road between P1 Primary point of access and New Road | 9,507 | 12,741 | 34% | 92 | 76 | -18% |
| 2C | Worthing Road between New Road and Southwater Street | 9,507 | 7,061 | -26% | 92 | 75 | -19% |
| 3A | Worthing Road between Southwater Street and Cedar Drive | 1,757 | 7,240 | 312% | 6 | 52 | 709% |
| 3B | Worthing Road between Cedar Drive and Church Lane | 1,757 | 1,923 | 9% | 6 | 27 | 320% |
| 4 | Southwater Street | 5,169 | 6,294 | 22% | 49 | 55 | 12% |
| 5A | Church Lane | 3,819 | 2,797 | -27% | 0 | 0 | 0% |
| 5B | Church Lane | 3,819 | 2,741 | -28% | 0 | 0 | 0% |
| 6A | Two Mile Ash Road, between Marlpost Road and P4 Primary point of access | 2,883 | 1,827 | -37% | 7 | 0 | -100% |
| 6B | Two Mile Ash Rd between P4 Primary point of access and Christ's Hospital Road | 2,883 | 5,538 | 92% | 7 | 44 | 519% |
| 6C | Two Mile Ash Road, North of Christ's Hospital Road | 5,045 | 5,727 | 14% | 11 | 3 | -73% |
| 7 | Christ's Hospital Road | 2,299 | 4,127 | 80% | 4 | 46 | 1,115% |
| 8 | Weston's Hill, north of Christ's Hospital Road | 1,702 | 2,771 | 63% | 30 | 72 | 142% |
| 9 | Fulford's Road | 3,724 | 4,847 | 30% | 35 | 77 | 121% |
| 10 | Blackbridge Lane, Horsham | 846 | 752 | -11% | 0 | 0 | 0% |
| 11 | Hill Farm Lane, Horsham | 422 | 510 | 21% | 0 | 0 | 0% |

12.6.5. Traffic flow data presented in **Table 12-9** above does not specifically take into account the embedded mitigation outlined below, due to the strategic nature of the model. Where impacts are

seen within the modelling it will take into account the embedded mitigation. This is presented in more detail in **Section 12.7**.

12.6.6. The table above notes some large percentage increases in HGV traffic on links 3B, 6B, 7, 8 and 9. It is acknowledged that the links 3B, 6B, 7, 8 and 9 have a very low baseline forecast number of HGVs, as such, whilst the assessment shows large increases in HGV percentages, the actual number of additional HGVs across the day is still small (circa 4 movements in the peak hours). Furthermore, the model does not specifically take into account the on-site mitigation that can be delivered to reduce traffic speeds, including traffic calming features which will likely re-route the HGV traffic onto more appropriate routes. As such, this has led to conclusions reached, notably for Link 7 that the overall impacts are not significant.

12.6.7. Embedded mitigation as part of the development proposals is set out below, these are presented in **Volume 2, Appendix 12.1 TA**:

On Site:

- Surfacing and vegetation removal enhancements to Bridleway 1662 and provision of an appropriate crossing;
- Surfacing and vegetation removal enhancements to Public Footpaths 1660, 1658, 1656 and 1655;
- Diversion of Public Footpath 1654 and provision of an appropriate crossing;
- Enhancements to the Downs Link; and
- New footway / cycle off street network connecting the Downs Link to the new Hop Oast Roundabout.

Off Site:

- Traffic calming measures, enhancement of existing footway provision and reduction of speed to 30mph on Christ's Hospital Road;
- Traffic calming measures, informal crossing facility with dropped kerbs, tactile paving and a reduction in the carriageway width on Two Mile Ash Road;
- A new pedestrian footway on Two Mile Ash Road between P4 Primary point of access and Christ's Hospital Road;
- Pedestrian and cycle provision to be introduced from the P1 Primary point of access to the Hop Oast Roundabout. The Hop Oast improvement scheme will see the signalisation of each of the approaches and will continue to provide the free-flow left-turn lane from Southwater onto the A24 northbound. The improvements will enhance pedestrian and cycle connectivity with pedestrian / cycle-controlled crossing facilities to be provided on the southern approach and exit of the roundabout. The scheme also includes potential bus priority measures;
- North of the A24 Hop Oast roundabout, the Horsham Golf Course development will be delivering a new shared use path between the Hop Oast roundabout and the P&R traffic signal junctions; and
- Six crossings on Worthing Road: four informal crossings with dropped kerbs and tactile paving and two signalised crossings.

12.6.8. Further details are presented within the TA (**Volume 2, Appendix 12.1**).

12.6.9. **Table 12-10** presents the assessment of potential effects, additional mitigation, residual effects and monitoring during operation of those links identified above. Further detail which presents effects prior to embedded mitigation and after embedded mitigation is provided in **Volume 2, Appendix 12.3 - Effect Tables**.

**Table 12-10 - Assessment of potential effects, additional mitigation, residual effects and monitoring during operation**

| Sensitive Highway Link | **Link 1 - Slip Road going north from Worthing Road / Hop Oast Roundabout – NMUs of pedestrian and cycling facilities** |
|---|---|
| Potential effects | The sensitivity of Slip Road going north from Worthing Road / Hop Oast Roundabout is **negligible.**<br>**Severance**<br>The magnitude of change is **low** (based on HGV % change). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant**).<br>**NMU Delay**<br>The magnitude of change is **very low** (based on total traffic flow change and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on cyclists using this link (**not significant**). Pedestrians would not utilise this link.<br>**NMU Amenity**<br>The magnitude of change is **negligible** (based on total vehicle flow, % HGV composition, speed, and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on cyclists using this link (**not significant**). Pedestrians would not utilise this link.<br>**Fear and Intimidation**<br>The magnitude of change is **negligible** (based on total vehicle flow, % HGV composition, speed and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on cyclists using this link (**not significant**). Pedestrians would not utilise this link. |
| Additional mitigation | Full Travel Plan in place and delivered. |
| Residual effects and monitoring | The sensitivity of Slip Road going north from Worthing Road / Hop Oast Roundabout is **negligible**, and the magnitude of change is **low to negligible**. Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant**) for **Severance, NMU Delay, NMU Amenity, and Fear and Intimidation**. |

| Sensitive Highway Link | **Link 2A & 2B - Worthing Road between A24 Slip Road and New Road - NMUs of pedestrian and cycling facilities** |
|---|---|
| **Potential effects** | The sensitivity of Worthing Road between A24 Slip Road and New Road is **medium.**<br>**Severance**<br>The magnitude of change is **small to negligible** (based on total flow change and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **minor adverse** effect on NMUs using this link (**not significant**).<br>**NMU Delay**<br>The magnitude of change is **low** (based on total traffic flow change and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **minor to negligible adverse** effect on NMUs using this link (**not significant**).<br>**NMU Amenity**<br>The magnitude of change is **small** (based on total vehicle flow, % HGV composition, speed and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **minor adverse** effect on NMUs using this link (**not significant**).<br>**Fear and Intimidation**<br>The magnitude of change is **small** (based on total traffic flow change, HGV% change, speed and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **minor adverse** effect on NMUs using this link (**not significant**). |
| **Additional mitigation** | Full Travel Plan in place and delivered. |
| **Residual effects and monitoring** | The sensitivity of Worthing Road between A24 Slip Road and New Road is **medium.** The magnitude of change is **small to negligible**. Therefore, there is likely to be a direct, permanent, medium-term **minor adverse** effect on NMUs using this link (**not significant**) for **Severance; minor adverse** effect on NMUs using this link (**not significant**) for **NMU Amenity** and **Fear and Intimidation**; and there is likely to be a direct, permanent, medium-term **minor to negligible adverse** effect on NMUs using this link (**not significant**) for **NMU Delay.** |

| Sensitive Highway Link | Link 2C - Worthing Road between New Road and Southwater Street - NMUs of pedestrian and cycling facilities |
|---|---|
| Potential effects | The sensitivity of Worthing Road between New Road and Southwater Street is **medium.**<br>**Severance**<br>The magnitude of change is **negligible** (based on total flow change and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **negligible** beneficial effect on NMUs using this link (**not significant**).<br>**NMU Delay**<br>The magnitude of change is **very low** (based on total traffic flow change and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **negligible** beneficial effect on NMUs using this link (**not significant**).<br>**NMU Amenity**<br>The magnitude of change is **negligible** (based on total vehicle flow, % HGV composition, speed and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **negligible** beneficial effect on NMUs using this link (**not significant**).<br>**Fear and Intimidation**<br>The magnitude of change is **negligible** (based on total vehicle flow, % HGV composition, speed and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **negligible beneficial** effect on NMUs using this link (**not significant**). |
| Additional mitigation | Full Travel Plan in place and delivered. |
| Residual effects and monitoring | The sensitivity of Worthing Road between New Road and Southwater Street is **medium.** The magnitude of change is **negligible**. Therefore, there is likely to be a direct, permanent, medium-term **negligible beneficial** effect on NMUs using this link (**not significant**) for **Severance, NMU Delay, NMU Amenity, and Fear and Intimidation**. |

| Sensitive Highway Link | Link 3 - Worthing Road between Southwater Street and Church Lane - NMUs of pedestrian and cycling facilities |
|---|---|
| Potential effects | The sensitivity of Worthing Road between Southwater Street and Church Lane is **high.**<br>**Severance**<br>The magnitude of change is **small** (based on total flow change and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **moderate adverse** effect on NMUs using this link (**significant**).<br>**NMU Delay**<br>The magnitude of change is **very low** (based on total traffic flow change and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant**).<br>**NMU Amenity**<br>The magnitude of change is **small** (based on total vehicle flow, % HGV composition, speed and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **moderate adverse** effect on NMUs using this link (**significant**).<br>**Fear and Intimidation**<br>The magnitude of change is **small** (based on total traffic flow change, HGV% change, speed and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **moderate adverse** effect on NMUs using this link (**significant).** |

| | |
|---|---|
| **Additional mitigation** | Full Travel Plan in place and delivered. |
| **Model Limitations** | The limitations around loading points in the model cause the significant impact with regards to Severance, this means the baseline flows are significantly underrepresented on this link. |
| **Residual effects and monitoring** | The sensitivity of Worthing Road between Southwater Street and Church Lane is **high.** The magnitude of change is **small to negligible**. Therefore, there is likely to be a direct, permanent, medium-term **moderate adverse** effect on NMUs using this link (**significant**) for **Severance; NMU Amenity** and **Fear and Intimidation**; and there is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant**) for **NMU Delay.** |

| **Sensitive Highway Link** | **Link 4 - Southwater Street - NMUs of pedestrian and cycling facilities** |
|---|---|
| **Potential effects** | The sensitivity of Southwater Street is **medium.**<br>**Severance**<br>The magnitude of change is **negligible** (based on total flow and HGV% change). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on this link (**not significant**).<br>**NMU Delay**<br>The magnitude of change is **very low** (based on total traffic flow change). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant**).<br>**NMU Amenity**<br>The magnitude of change is **negligible** (based on total vehicle flow, % HGV composition, and speed). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant**).<br>**Fear and Intimidation**<br>The magnitude of change is **negligible** (based on total vehicle flow, % HGV composition, and speed). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant).** |
| **Additional mitigation** | Full Travel Plan in place and delivered. |
| **Residual effects and monitoring** | The sensitivity of Southwater Street is **medium**, and the magnitude of change is **negligible**. Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant**) for **Severance, NMU Delay, NMU Amenity, and Fear and Intimidation**. |

| **Sensitive Highway Link** | **Link 5 – Church Lane - NMUs of pedestrian and cycling facilities** |
|---|---|
| **Potential effects** | The sensitivity of Church Lane is **medium.**<br>**Severance**<br>The magnitude of change is **negligible** (based on total flow and HGV% change). Therefore, there is likely to be a direct, permanent, medium-term **negligible beneficial** effect on this link (**not significant**).<br>**NMU Delay**<br>The magnitude of change is **very low** (based on total traffic flow change). Therefore, there is likely to be a direct, permanent, medium-term **negligible beneficial** effect on NMUs using this link (**not significant**). |

| | |
|---|---|
| | **NMU Amenity**<br>The magnitude of change is **negligible** (based on total vehicle flow, % HGV composition, and speed). Therefore, there is likely to be a direct, permanent, medium-term **negligible beneficial** effect on NMUs using this link (**not significant**).<br>**Fear and Intimidation**<br>The magnitude of change is **negligible** (based on total vehicle flow, % HGV composition, and speed). Therefore, there is likely to be a direct, permanent, medium-term **negligible beneficial** effect on NMUs using this link (**not significant).** |
| **Additional mitigation** | Full Travel Plan in place and delivered. |
| **Residual effects and monitoring** | The sensitivity of Church Lane is **medium**, and the magnitude of change is **negligible**. Therefore, there is likely to be a direct, permanent, medium-term **negligible beneficial** effect on this link (**not significant**) for **Severance, NMU Delay, NMU Amenity, and Fear and Intimidation**. |

| **Sensitive Highway Link** | **Link 6A – Two Mile Ash Road between Marlpost Road and Development Main Access - NMUs of pedestrian and cycling facilities** |
|---|---|
| **Potential effects** | The sensitivity of Two Mile Ash Road is **low.**<br>**Severance**<br>The magnitude of change is **low** (based on total flow). Therefore, there is likely to be a direct, permanent, medium-term **minor beneficial** effect on this link (**not significant**).<br>**NMU Delay**<br>The magnitude of change is **very low** (based on total traffic flow change). Therefore, there is likely to be a direct, permanent, medium-term **negligible beneficial** effect on NMUs using this link (**not significant**).<br>**NMU Amenity**<br>The magnitude of change is **negligible** (based on total vehicle flow, % HGV composition, speed and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **negligible beneficial** effect on NMUs using this link (**not significant**).<br>**Fear and Intimidation**<br>The magnitude of change is **negligible** (based on total vehicle flow, % HGV composition, speed and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **negligible beneficial** effect on NMUs using this link (**not significant**). |
| **Additional mitigation** | Full Travel Plan in place and delivered. |
| **Residual effects and monitoring** | The sensitivity of Two Mile Ash Road is **low.**<br>The magnitude of change is **low to negligible**. Therefore, there is likely to be a direct, permanent, medium-term **minor beneficial** effect on NMUs using this link (**not significant**) for **Severance;** a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant**) for **NMU Delay, NMU Amenity, and Fear and Intimidation**. |

| Sensitive Highway Link | Link 6B – Two Mile Ash Road between Development Main Access and Christ's Hospital Road - NMUs of pedestrian and cycling facilities |
|---|---|
| Potential effects | The sensitivity of Two Mile Ash Road is **low.**<br>**Severance**<br>The magnitude of change is **medium** (based on total flow, HGV% change and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **minor adverse** effect on this link (**not significant**).<br>**NMU Delay**<br>The magnitude of change is **very low** (based on total traffic flow change). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant**).<br>**NMU Amenity**<br>The magnitude of change is **medium** (based on total vehicle flow, % HGV composition, speed and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **minor beneficial** effect on NMUs using this link (not **significant**).<br>**Fear and Intimidation**<br>The magnitude of change is **medium** (based on total vehicle flow, % HGV composition, speed and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **minor beneficial** effect on NMUs using this link (not **significant**). |
| Additional mitigation | Full Travel Plan in place and delivered.<br>Traffic calming measures within the development site. |
| Residual effects and monitoring | The sensitivity of Two Mile Ash Road is **low.** The magnitude of change is **medium to very low**. Therefore, there is likely to be a direct, permanent, medium-term **minor adverse** effect on NMUs using this link (**not significant**) for **Severance:** a direct, permanent, medium-term **minor beneficial** effect on NMUs using this link (**not significant**) for **NMU Amenity** and **Fear and Intimidation**. There is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant**) for **NMU Delay.** |

| Sensitive Highway Link | Link 6C – Two Mile Ash Road north of Christ's Hospital Road - NMUs of pedestrian and cycling facilities |
|---|---|
| Potential effects | The sensitivity of Two Mile Ash Road North of Christ's Hospital Road is **low.**<br>**Severance**<br>The magnitude of change is **negligible** (based on total traffic flow). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on this link (**not significant**).<br>**NMU Delay**<br>The magnitude of change is **very low** (based on total traffic flow change). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant**).<br>**NMU Amenity**<br>The magnitude of change is **negligible** (total vehicle flow, % HGV composition, and speed). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant**).<br>**Fear and Intimidation** |

| | |
|---|---|
| | The magnitude of change is **negligible** (total vehicle flow, % HGV composition, and speed). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant**). |
| **Additional mitigation** | Full Travel Plan in place and delivered.<br>Traffic calming measures within the development site. |
| **Residual effects and monitoring** | The sensitivity of Two Mile Ash Road north of Christ's Hospital Road is **low**, and the magnitude of change is **negligible**. Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on this link (**not significant**). |

| **Sensitive Highway Link** | **Link 7 – Christ's Hospital Road - NMUs of pedestrian and cycling facilities** |
|---|---|
| **Potential effects** | The sensitivity of Christ's Hospital Road is **high.**<br>**Severance**<br>The magnitude of change is **small** (based on total traffic flow change, total HGV flow and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **minor adverse** effect on NMUs using this link (**Not significant**).<br>**NMU Delay**<br>The magnitude of change is **very low** (based on total traffic flow change and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant**).<br>**NMU Amenity**<br>The magnitude of change is **medium** (total vehicle flow, % HGV composition, speed and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **negligible beneficial** effect on NMUs using this link (**not significant**).<br>**Fear and Intimidation**<br>The magnitude of change is **medium** (total vehicle flow, % HGV composition, speed, and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **negligible beneficial** effect on NMUs using this link (**not significant).** |
| **Additional mitigation** | Full Travel Plan in place and delivered.<br>Traffic calming measures within the development site. |
| **Residual effects and monitoring** | The sensitivity of Christ's Hospital Road is **high.** The magnitude of change is **small to very low**. Therefore, there is likely to be a direct, permanent, medium-term **minor adverse** effect on NMUs using this link (not **significant**) for **Severance.** There is likely to be a direct, permanent, medium-term **negligible beneficial** effect on NMUs using this link (**not significant**) for **NMU Amenity** and **Fear and Intimidation.** There is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant**) for **NMU Delay.** |

| **Sensitive Highway Link** | **Link 8 - Weston's Hill, north of Christ's Hospital Road - NMUs of pedestrian and cycling facilities** |
|---|---|
| **Potential effects** | The sensitivity of Weston's Hill is **low.**<br>**Severance**<br>The magnitude of change is **medium** (based on total traffic flow change). Therefore, there is likely to be a direct, permanent, medium-term **minor adverse** effect on NMUs using this link (**not significant**).<br>**NMU Delay** |

| | |
|---|---|
| | The magnitude of change is **very low** (based on total traffic flow change). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant**).<br><br>**NMU Amenity**<br>The magnitude of change is **medium** (total vehicle flow, % HGV composition, and speed). Therefore, there is likely to be a direct, permanent, medium-term **minor adverse** effect on NMUs using this link (**not significant**).<br>**Fear and Intimidation**<br>The magnitude of change is **medium** (total vehicle flow, % HGV composition, and speed). Therefore, there is likely to be a direct, permanent, medium-term **minor adverse** effect on NMUs using this link (**not significant).** |
| **Additional mitigation** | Full Travel Plan in place and delivered.<br>Traffic calming measures within the development site. |
| **Residual effects and monitoring** | The sensitivity of Weston's Hill is **low.**<br>The magnitude of change is **medium to very low**. Therefore, there is likely to be a direct, permanent, medium-term **minor adverse** effect on NMUs using this link (**not significant**) for **Severance, NMU Amenity** and **Fear and Intimidation.** There is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant**) for **NMU Delay.** |

| **Sensitive Highway Link** | **Link 9 - Fulford's Road - NMUs of pedestrian and cycling facilities** |
|---|---|
| **Potential effects** | The sensitivity of Fulford's Road is **low.**<br>**Severance**<br>The magnitude of change is **low** (based on total traffic flow change). Therefore, there is likely to be a direct, permanent, medium-term **minor adverse** effect on NMUs using this link (**not significant**).<br>**NMU Delay**<br>The magnitude of change is **very low** (based on total traffic flow change). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant**).<br>**NMU Amenity**<br>The magnitude of change is **negligible** (total vehicle flow, % HGV composition, and speed). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant**).<br>**Fear and Intimidation**<br>The magnitude of change is **negligible** (total vehicle flow, % HGV composition, and speed). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant).** |
| **Additional mitigation** | Full Travel Plan in place and delivered.<br>Traffic calming measures within the development site. |
| **Residual effects and monitoring** | The sensitivity of Fulford's Road is **low.**<br>The magnitude of change is **low to very low**. Therefore, there is likely to be a direct, permanent, medium-term **minor adverse** effect on NMUs using this link (**not significant**) for **Severance.** There is likely to be a direct, permanent, medium-term **negligible** effect on NMUs using this link (**not significant**) for **NMU Delay, NMU Amenity** and **Fear and Intimidation.** |

| Sensitive Highway Link | Link 10 – Blackbridge Lane - NMUs of pedestrian and cycling facilities |
|---|---|
| Potential effects | The sensitivity of Blackbridge Lane is **high.**<br>**Severance**<br>The magnitude of change is **negligible** (based on total flow and HGV% change). Therefore, there is likely to be a direct, permanent, medium-term **negligible beneficial** effect on this link (**not significant**).<br>**NMU Delay**<br>The magnitude of change is **very low** (based on total traffic flow change). Therefore, there is likely to be a direct, permanent, medium-term **negligible beneficial** effect on NMUs using this link (**not significant**).<br>**NMU Amenity**<br>The magnitude of change is **negligible** (total vehicle flow, % HGV composition, and speed). Therefore, there is likely to be a direct, permanent, medium-term **negligible beneficial** effect on NMUs using this link (**not significant**).<br>**Fear and Intimidation**<br>The magnitude of change is **negligible** (total vehicle flow, % HGV composition, and speed). Therefore, there is likely to be a direct, permanent, medium-term **negligible beneficial** effect on NMUs using this link (**not significant).** |
| Additional mitigation | Full Travel Plan in place and delivered. |
| Residual effects and monitoring | The sensitivity of Blackbridge Lane is **high** and the magnitude of change is **negligible**. Therefore, there is likely to be a direct, permanent, medium-term **negligible beneficial** effect on NMUs using this link (**not significant**) for **Severance, NMU Delay, NMU Amenity, and Fear and Intimidation**. |

| Sensitive Highway Link | Link 11 – Hill Farm Lane - NMUs of pedestrian and cycling facilities |
|---|---|
| Potential effects | The sensitivity of Hill Farm Lane is **high.**<br>**Severance**<br>The magnitude of change is **negligible** (based on total flow and HGV% change). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on this link (**not significant**).<br>**NMU Delay**<br>The magnitude of change is **very low** (based on total traffic flow change). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant**).<br>**NMU Amenity**<br>The magnitude of change is **negligible** (total vehicle flow, % HGV composition, and speed). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant**).<br>**Fear and Intimidation**<br>The magnitude of change is **negligible** (total vehicle flow, % HGV composition, and speed). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant).** |
| Additional mitigation | Full Travel Plan in place and delivered. |

| | |
|---|---|
| **Residual effects and monitoring** | The sensitivity of Hill Farm Lane is **high** and the magnitude of change is **negligible**. Therefore, there is likely to be a direct, permanent, medium-term **negligible beneficial** effect on NMUs using this link (**not significant**) for **Severance, NMU Delay, NMU Amenity, and Fear and Intimidation**. |

| **Sensitive Highway Link** | **Link 12 – Downs Link - NMUs of pedestrian and cycling facilities** |
|---|---|
| **Potential effects** | The sensitivity of Downs Link is **Medium.**<br>**Severance**<br>The magnitude of change is **small** (based on total flow change and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **minor adverse** effect on NMUs using this link (**not significant**).<br>**NMU Delay**<br>The magnitude of change is **very low** (based on total traffic flow change and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant**).<br>**NMU Amenity**<br>The magnitude of change is **small** (based on total vehicle flow, % HGV composition, speed and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant**).<br>**Fear and Intimidation**<br>The magnitude of change is **small** (based on total traffic flow change, HGV% change, speed and embedded mitigation). Therefore, there is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant).** |
| **Additional mitigation** | Full Travel Plan in place and delivered. |
| **Residual effects and monitoring** | The sensitivity of the Downs Link is **medium.** The magnitude of change is **small to negligible**. Therefore, there is likely to be a direct, permanent, medium-term **minor adverse** effect on NMUs using this link (**not significant**) for **Severance**. There is likely to be a direct, permanent, medium-term **negligible adverse** effect on NMUs using this link (**not significant**) for **NMU Delay, NMU Amenity** and **Fear and Intimidation.** |

## OPPORTUNITIES FOR ENVIRONMENTAL ENHANCEMENT

12.6.10. As part of the construction, detailed Construction Traffic Logistics Plans (CTLPs) would be required to ensure that the specific construction activities taking place align with the over-arching framework document. This could include further mitigation or enhancement measures to respond to specific issues. The level of intervention is unknown at this outline stage and so cannot be included in the residual effects assessment as additional mitigation.

12.6.11. It is intended that a ‘monitor and manage’ approach to the delivery and phasing of the mitigation is proposed. Monitoring of the transport network would be undertaken periodically in agreement with the Highway Authority. Trigger points for implementation of mitigation measures and the scope of mitigation measures reviewed so that the final mitigation measures implemented can be tailored to the level of transport impact.

## 12.7. DIFFICULTIES AND UNCERTAINTIES

12.7.1. To ensure transparency within the EIA process, the following limitations and assumptions have been identified:

- Whilst there are some quantitative guidelines against which the Proposed Development is assessed, some of the factors (including pedestrian and cyclist amenity) are primarily assessed on a qualitative basis using professional judgement due to a lack of a standard methodology; and
- The assessment utilises projected future baseline traffic flows on the local highway network within the study area and the projected future traffic generated by the Proposed Development to assess the environmental impacts of the Proposed Development. This assessment is therefore limited to the accuracy of this data and associated assumptions. It is considered, however, that this data and assumptions are robust for the purposes of assessing the impacts of the Proposed Development and subsequent effects.

12.7.2. A number of limitations in respect to the SATURN model have been identified, as summarised below.

- **Development zones** – The SATURN model provided to WSP only had the Southwater local plan allocation as a single zone, which was loaded onto Worthing Road. Through agreement and discussion with WSCC, the model has been updated by WSP to take account of the proposed access points. This loading methodology within the baseline scenario affects how the Broadacres development had been modelled with loading of the site being at the Church Lane junction, and therefore some manual adjustments within the model were required to make these loadings work. Secondly, Furthermore, Worthing Road access has a lower flow than is expected due to how the model is loading development within that zone;
- **Link 3 Worthing Road (South of Southwater Street)** – this link was showing low baseline traffic flows in the SATURN model (significantly lower than Link 2 for example). Following further investigation, it is apparent that due to the way that zones were coded into the SATURN model, a number of zones were loaded directly to Link 2, when in-practice a number of these zones load onto Link 3. As such, a number of traffic flows 'miss' Link 3 in the SATURN model which leads to lower than expected flows in the Do Minimum scenario;
- **Model links** – A number of key junctions within Southwater were not included within the model, or if included within the model do not show the junction in its current format (for example 4 arm junctions shown as 3 arms). For some of these junctions it was agreed with WSCC to use existing turning traffic flows to fill in the missing gaps, however this contributes to some poor or unknown validation in and around Southwater. This will likely result in higher flows forecast in the with development scenario compared to the actual which will result in a robust assessment; and
- **Local Plan Mitigation** - the SATURN model scenario does not include all highway mitigation associated with the Local Plan this includes for Hop Oast Roundabout, which is based its current alignment. Furthermore, the modelling provided does not necessarily include any of the currently proposed A24 corridor improvements that are either being delivered now or identified for the future. WSCC are currently undertaking a A24 Study with the aim of enhancing the A24 to address some of the impacts noted within this document by the rat running on roads like Two Mile Ash and Southwater Street.

## 12.8. SUMMARY

12.8.1. **Table 12-11** provides a summary of the findings of the assessment.

**Table 12-11 - Summary of transport effects**

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Construction Phase** | | | | | |
| **NMUs of pedestrian and cycling facilities along Link 2** - Worthing Road – Hop Oast Roundabout to Southwater Street | Severance, NMU delay, NMU amenity, Fear and intimidation | **Negligible Adverse (not significant)** T / D / ST | N/A | **Negligible Adverse (not significant)** T / D / ST | N/A |
| **Operational Phase** | | | | | |
| **NMUs of pedestrian and cycling facilities along Link 1, 2B, 3B, 4, 6C, 11** | Severance | **Negligible Adverse (not significant)** P / D / MT | Full Travel Plan in place and delivered. Conditioned within planning permission. | **Negligible Adverse (not significant)** P / D / MT | Travel Plan monitoring for 5 years from occupation |
| **NMUs of pedestrian and cycling facilities along Link 2A, 6B, 7, 8, 9, 12** | Severance | **Minor Adverse (not significant)** P / D / MT | Full Travel Plan in place and delivered. Conditioned within planning permission. | **Minor Adverse (not significant)** P / D / MT | Travel Plan monitoring for 5 years from occupation |
| **NMUs of pedestrian and cycling facilities along Link 3A** | Severance | **Moderate Adverse (significant)** P / D / MT | Full Travel Plan in place and delivered. Conditioned within planning permission. | **Moderate Adverse (significant)** P / D / MT | Travel Plan monitoring for 5 years from occupation |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **NMUs of pedestrian and cycling facilities along Link 2C, 5A, 5B, 10** | Severance | **Negligible Beneficial (not significant)** P / D / MT | Full Travel Plan in place and delivered. Conditioned within planning permission. | **Negligible Beneficial (not significant)** P / D / MT | Travel Plan monitoring for 5 years from occupation |
| **NMUs of pedestrian and cycling facilities along Link 6A** | Severance | **Minor Beneficial (not significant)** P / D / MT | Full Travel Plan in place and delivered. Conditioned within planning permission. | **Minor Beneficial (not significant)** P / D / MT | Travel Plan monitoring for 5 years from occupation |
| **NMUs of pedestrian and cycling facilities along Link 1, 2A, 2B, 3A, 3B, 4, 6B, 6C, 7, 8, 9, 11, 12** | NMU delay | **Negligible Adverse (not significant)** P / D / MT | Full Travel Plan in place and delivered. Conditioned within planning permission. | **Negligible Adverse (not significant)** P / D / MT | Travel Plan monitoring for 5 years from occupation |
| **NMUs of pedestrian and cycling facilities along Link 2C, 5A, 5B, 6A, 10** | NMU delay | **Negligible Beneficial (not significant)** P / D / MT | Full Travel Plan in place and delivered. Conditioned within planning permission. | **Negligible Beneficial (not significant)** P / D / MT | Travel Plan monitoring for 5 years from occupation |
| **NMUs of pedestrian and cycling facilities along Link 1, 2B, 3B, 4, 6C, 9, 11, 12** | NMU amenity and Fear and intimidation | **Negligible Adverse (not significant)** P / D / MT | Full Travel Plan in place and delivered. Conditioned within planning permission. | **Negligible Adverse (not significant)** P / D / MT | Travel Plan monitoring for 5 years from occupation |
| **NMUs of pedestrian and cycling facilities along Link 2A, 8** | NMU amenity and Fear and intimidation | **Minor Adverse (not significant)** P / D / MT | Full Travel Plan in place and delivered. Conditioned within planning permission. | **Minor Adverse (not significant)** P / D / MT | Travel Plan monitoring for 5 years from occupation |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **NMUs of pedestrian and cycling facilities along Link 3A** | NMU amenity and Fear and intimidation | **Moderate Adverse (significant)** P / D / MT | Full Travel Plan in place and delivered. Conditioned within planning permission. | **Moderate Adverse (significant)** P / D / MT | Travel Plan monitoring for 5 years from occupation |
| **NMUs of pedestrian and cycling facilities along Link 2C, 5A, 5B, 6A, 7, 10** | NMU amenity and Fear and intimidation | **Negligible Beneficial (not significant)** P / D / MT | Full Travel Plan in place and delivered. Conditioned within planning permission. | **Negligible Beneficial (not significant)** P / D / MT | Travel Plan monitoring for 5 years from occupation |
| **NMUs of pedestrian and cycling facilities along Link 6B** | NMU amenity and Fear and intimidation | **Minor Beneficial (not significant)** P / D / MT | Full Travel Plan in place and delivered. Conditioned within planning permission. | **Minor Beneficial (not significant)** P / D / MT | Travel Plan monitoring for 5 years from occupation |

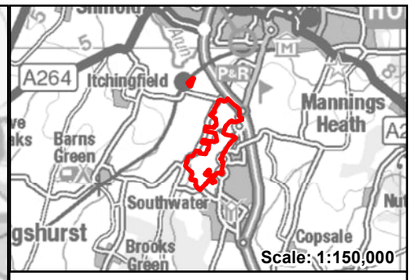
Key to table:

**P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable**

## 12.9. REFERENCES


- **Reference 12.1**: Institute of Environmental Management and Assessment (IEMA) (now Institute of Sustainability & Environmental Professionals – 'ISEP') Guidelines Institute of Environmental Management and Assessment Guidelines. Environmental Assessment of Traffic and Movement (2023) Online, available at https://www.iema.net/media/5mrmquib/iema-report-environmental-assessment-of-traffic-and-movement-rev07-july-2023.pdf [Accessed December 2025].
- **Reference 12.2**: Ministry of Housing, Communities and Local Government. 2025. National Planning Policy Framework (NPPF) Ministry of Housing, Communities and Local Government
- Planning Practice Guidance. [Online] accessed via https://www.gov.uk/government/publications/national-planning-policy-framework--2 [Accessed December 2025].
- **Reference 12.3**: Ministry of Housing, Communities and Local Government. 2024. National
- Planning Practice Guidance. [Online] accessed via. https://www.gov.uk/government/collections/planning-practice-guidance
- **Reference 12.4**: Highways England, 2020. Design Manual for Roads and Bridges (DMRB) LA104 Environmental assessment and monitoring. Highways England.
- **Reference 12.5**: Highways England, 2020. Design Manual for Roads and Bridges (DMRB) LA112 Population and Human Health. Highways England.
- **Reference 12.6**: Department for Transport TAG Unit A4-1 Social Impact Appraisal guidance.

N




**Legend**

- Site Boundary
- SATURN MODEL

0 1.5 3 6 9 12 15
Kilometers

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| REVISION | DRAWN | CHECKED | APPROVED | DATE |
|---|---|---|---|---|
| P01 | VG | PM | PM | 2/4/2026 |

DESCRIPTION: FIRST DRAFT ISSUE

PROJECT TITLE:
LAND NORTH-WEST OF SOUTHWATER

DRAWING TITLE:
FIGURE 12-1 - SATURN MODEL EXTENT

CONFIDENTIALITY: PUBLIC

| DRAWN: | CHECKED: | APPROVED: | AUTHORISED: |
|---|---|---|---|
| VG | PM | PM | PM |

| SCALE @ A3 SIZE: | DATE: | REVISION: |
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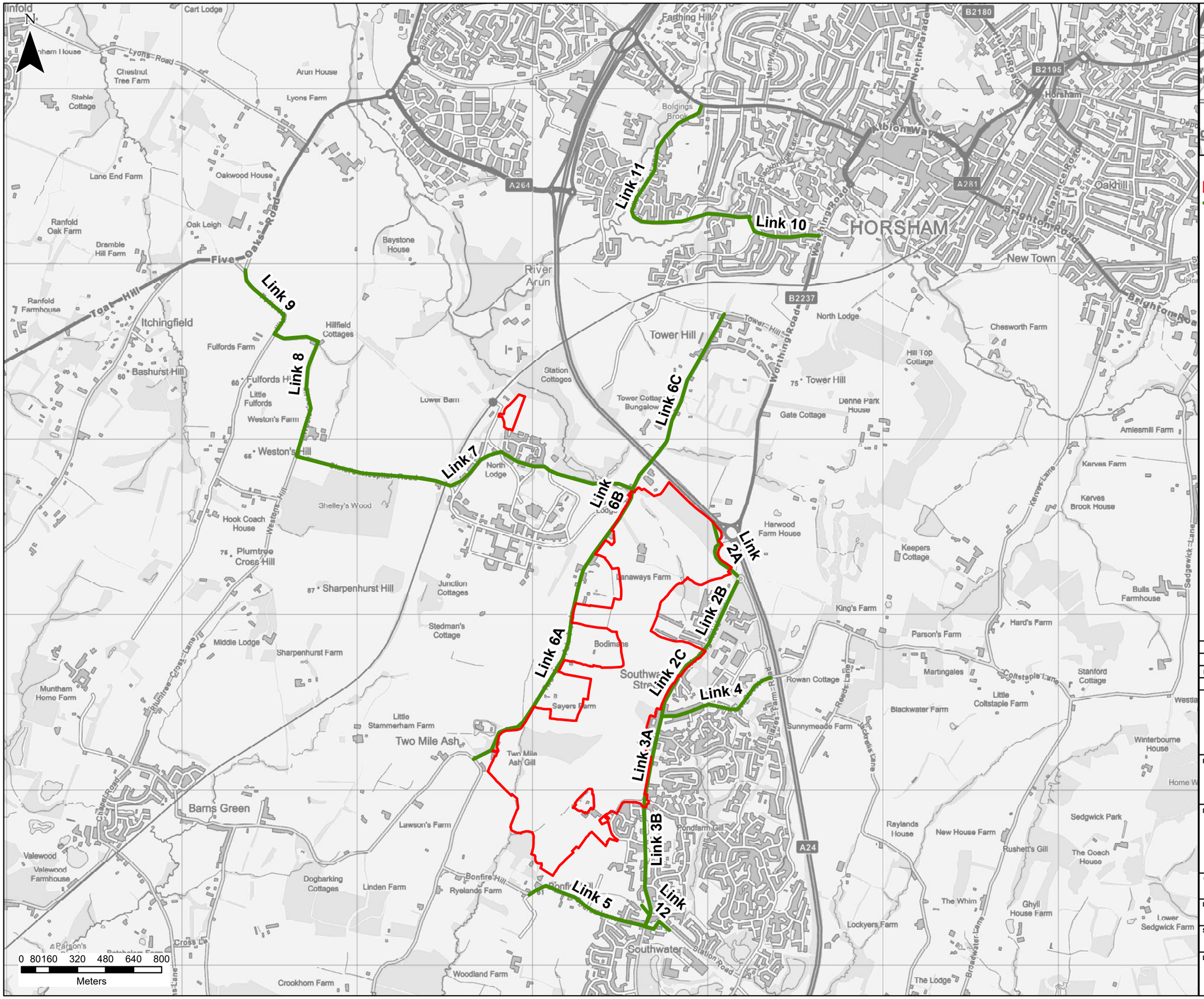
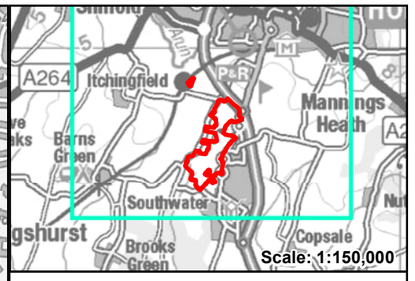
| 1:375,000 | 2/4/2026 | P01 |

DRAWING NUMBER:
70091497-WSP-ENV-012




**Legend**

- Site Boundary
- Links

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| REVISION | DRAWN | CHECKED | APPROVED | DATE |
|---|---|---|---|---|
| P01 | VG | PM | PM | 2/4/2026 |
| FIRST DRAFT ISSUE | | | | |

DESCRIPTION

**PROJECT TITLE:**

LAND NORTH-WEST OF SOUTHWATER

**DRAWING TITLE:**

FIGURE 12-2 - HIGHWAY LINKS ASSESSED IN ENVIRONMENT STATEMENT

**CONFIDENTIALITY**

PUBLIC

| DRAWN: | CHECKED: | APPROVED: | AUTHORISED: |
|---|---|---|---|
| VG | PM | PM | PM |

| SCALE @ A3 SIZE: | DATE: | REVISION: |
|---|---|---|
| 1:20,000 | 2/4/2026 | P01 |

**DRAWING NUMBER:**

70091497-WSP-ENV-012

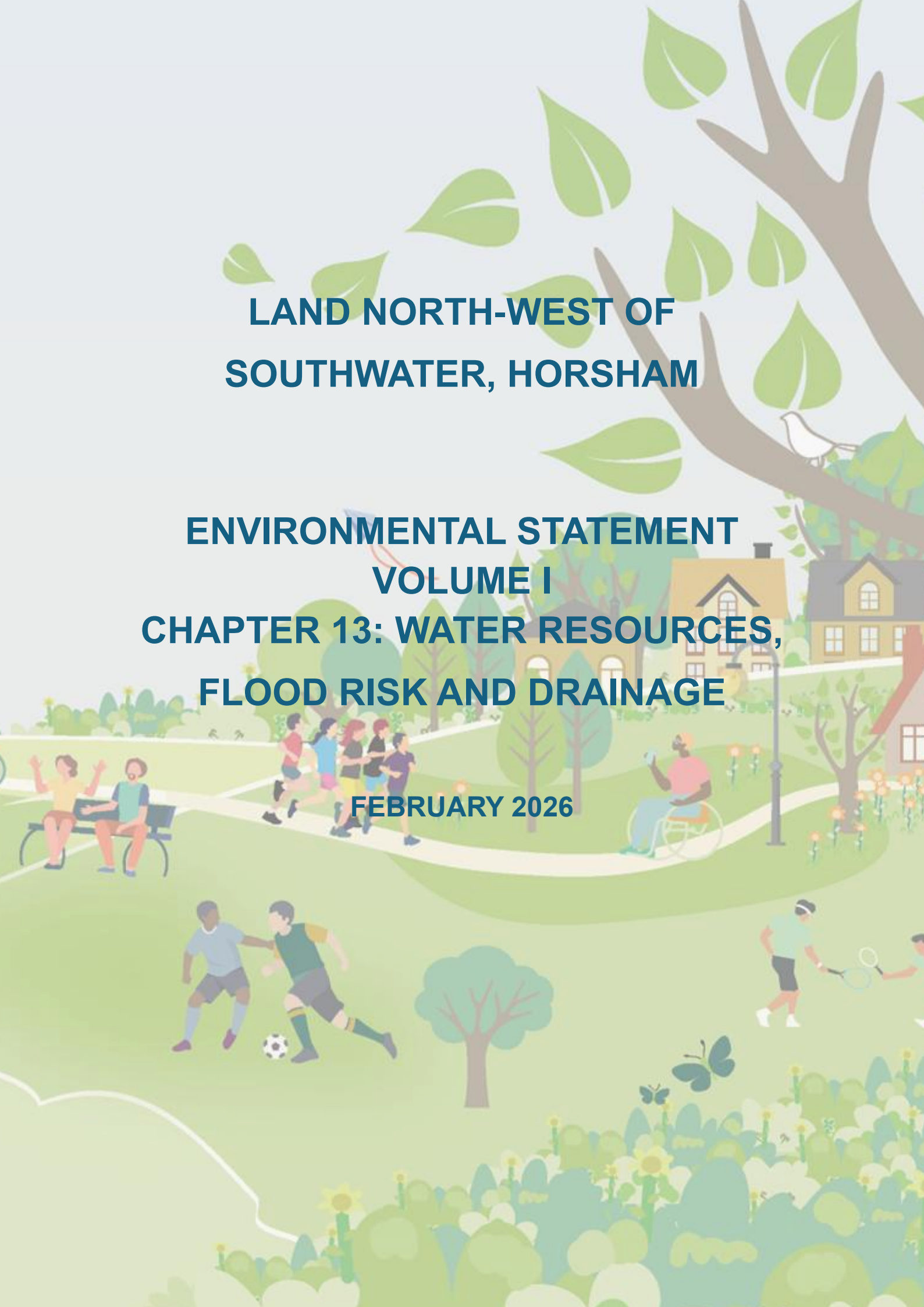
WSP House
70 Chancery Lane
London
WC2A 1AF

**wsp.com**

# LAND NORTH-WEST OF SOUTHWATER, HORSHAM

# ENVIRONMENTAL STATEMENT VOLUME I CHAPTER 13: WATER RESOURCES, FLOOD RISK AND DRAINAGE

FEBRUARY 2026



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# 13 WATER RESOURCES, FLOOD RISK AND DRAINAGE

## 13.1 INTRODUCTION

13.1.1 This chapter reports the outcomes of the assessment of likely significant effects arising from the Proposed Development upon water resources, flood risk, and drainage; and the proposed appropriate mitigation measures required.

13.1.2 The ES chapter will detail the following

- The approach for managing surface water runoff from the Proposed Development will ensure attenuation to match greenfield runoff rates for all events up to and including those with a 1 in 100 year return period, accounting for climate change considerations. The surface water drainage strategy will be formulated in accordance with policy requirements on surface water drainage published in June 2025 (**Ref. 13.1**) and will integrate suitable Sustainable Drainage Systems (SuDS) techniques;
- An Outline Foul Water Drainage Strategy will be developed to indicate how foul water flows generated by the Proposed Development will be managed. Foul water flows will be discharged to the public sewerage network at points agreed with the sewerage undertaker (Southern Water Services (SWS)). Due to the varied topography on the Site, a number of internal pumping stations will be required; and
- A Construction Environmental Management Plan (CEMP) will be produced to cover the construction phase. This will include temporary works proposals for the management of both surface water and foul water runoff from the Site during construction and will also provide guidance for the construction workforce on measures to protect themselves and the natural environment through the use of Personal Protective Equipment (PPE), Site risk assessments and safe systems of work.

13.1.3 The following residual effects have been identified:

**CONSTRUCTION PHASE**

- **Flood Risk** - There may be temporary, direct, short-term effects from spillages of surface or foul water that could flow to surface watercourses during the construction phase. This risk will be managed through the CEMP that will include details of construction phase drainage controls and could lead to a **minor adverse** effect which is temporary and **not significant**;
- **Receiving Waters Quantity / Quality Risk** - There may be temporary, direct, medium-term effects from short term failures of temporary water quality barriers during construction works. This risk will be managed through the CEMP. The CEMP will include details of construction phase surface water drainage strategy including drainage discharge controls for both flow rate and water quality, the residual risk is a **minor adverse** effect which is temporary and **not significant**;
- **SWS Foul Drainage Network** - There may a temporary, direct, short-term effect from excessive, unregulated discharges of foul water to the public sewerage network during the construction phase. The risk of this will remain low through adherence to the CEMP and will lead to a **minor adverse** effect which is temporary and **not significant**; and

- **Site Workers -** There may a temporary, direct, medium-term effect from isolated exposure of workers to foul or surface water flows during the construction phase. The risk of this will remain limited through adherence to the CEMP. As a result, the risk has been assessed as low and would result in an impact on Site workers of **minor adverse effect** which is **not significant.**

**OPERATIONAL PHASE**

- **End Users -Flood Risk** - Over the long term, flood risk may increase due to potential failure of on-site surface water management features. To mitigate this, systems will be designed with capacity for exceedance events; for example, attenuation basins will include a freeboard of 300mm above the 1 in 100 year plus climate change storage level. Additionally, a maintenance company will be established to oversee the upkeep and management of on-site surface water drainage systems. As a result, the risk has been assessed as low and would result in a longer-term impact on the surface water drainage network flood risk of **negligible adverse** effect which is **not significant**;
- **Receiving Waters Quantity / Quality Risk** – flood risk could also cause detriment to receiving watercourses in respect of water quality. This risk is mitigated by adequate maintenance of the SuDS systems installed on the Site. In addition, the proposed pollution indices have been assessed and multi-stage treatment provided in line with CIRIA guidance to minimise this risk. As a result, the risk has been assessed as low and would result in a longer-term impact on the receiving waters of **negligible adverse** effect which is **not significant**;
- **SWS Foul Drainage Network** – It is proposed that the foul drainage system on the Site will be offered for adoption. This adopting body will be fully responsible for the operation and maintenance of the foul sewerage network. A risk exists if the proposed foul water system is subject to failure. This risk remains low as the design of the on-site pumping stations will include the provision of emergency storage in accordance with the requirements of the sewerage undertaker. The sewerage undertaker (Southern Water Services) has confirmed that capacity for the proposed flows within the Southern Water networks can be achieved by off-site upgrade works that should be implemented within 24 months of planning approval. As a result, the risk has been assessed as low and would result in a longer-term impact on the foul drainage network of **minor adverse** effect which is **not significant**; and
- **End Users** – Following the implementation of mitigation measures detailed above it is considered that there would be limited risk of permanent, direct, longer-term risks of localised flooding, water quality or pollution impact on end users of the Site. As a result, the risk has been assessed as low and would result in a longer-term impact on end users of **negligible adverse** effect which is **not significant**.

13.1.4 The following monitoring requirements have been identified:

- Implementation of the requirements of the CEMP throughout each phase of construction;
- Continuing engagement with Southern Water to confirm the capacity of the foul water drainage networks to support the Proposed Development and agree any network reinforcements and / or demand strategies to be implemented; and
- Establishment of a drainage infrastructure management company responsible for monitoring the performance of the surface water drainage network and SuDS features serving the Proposed Development and all aspects of operational maintenance and incident response.

13.1.5 The following environmental enhancement opportunities have been identified:

- The introduction of SuDS features as part of the surface water drainage strategy brings with it not only amenity value but also has the potential to enhance the biodiversity of the existing Site.

13.1.6 The remainder of this chapter describes the assessment methodology and the baseline conditions relevant to the assessment. A summary of the likely significant effects leading to the additional mitigation measures required to avoid, prevent, reduce or, if possible, offset any likely significant adverse effects are identified. Opportunities for environmental enhancement, where such opportunities exist, are also discussed.

13.1.7 This chapter is intended to be read as part of the wider ES, with particular reference to **Volume 1, Chapter 16: Cumulative Effects and Chapter 14: Ground Conditions and Contamination** which discusses the status and potential impacts to contamination and groundwater resources. A Flood Risk Assessment ('FRA') and Outline Drainage Strategy have been produced by WSP to support the planning application and can be found in **Volume 2, Appendix 13.1.** Information from both the FRA and Outline Drainage Strategy have informed this chapter.

## 13.2 CONSULTATION, SCOPE, METHODOLOGY AND SIGNIFICANCE CRITERIA

### CONSULTATION UNDERTAKEN TO DATE

13.2.1 **Table 13-1** provides a summary of the consultation activities undertaken in support of the preparation of this assessment.

**Table 13-1 - Summary of Consultation Undertaken**

| Body / Organisation | Individual / Stat Body / Organisation | Meeting Dates and Other Forms of Consultation | Summary of Outcome of Discussions |
|---|---|---|---|
| **Southern Water Services (SWS)** | Water Authority | Pre-development Enquiry<br>05/04/2022 | SWS have confirmed that adequate capacity to cater the foul flows of the Proposed Development can be made subject to off-site improvements. |
| | | EIA Scoping Opinion Response<br>27/11/2025 | Responses are summarised as follows:<br>▪ Adherence to National Planning Policy Framework (NPPF);<br>▪ Cognisance of buffer zone requirements from Christ Hospital Wastewater Treatment Works (WWTW);<br>▪ Cognisance of presence of foul water sewer within development boundary;<br>▪ Need for sewer capacity assessment to be undertaken once planning granted;<br>▪ Need for formal connection application, where required in the future for sewer connections; |

| Body / Organisation | Individual / Stat Body / Organisation | Meeting Dates and Other Forms of Consultation | Summary of Outcome of Discussions |
|---|---|---|---|
| | | | ▪ Adherence to Part H3 of the Building Regulations; and<br>▪ Use of SuDS. |
| **Environment Agency (EA)** | Statutory Consultee | Email<br>EIA Scoping Opinion Responses 25/11/2025 | EA confirmed satisfaction with the range of topics proposed within the Environmental Statement (ES). Their main focus points were:<br>▪ Groundwater quality / impacts on controlled waters;<br>▪ The assessment of flood risk and drainage, being in parallel to the ground conditions and contamination environmental statement chapter;<br>▪ The potential use of SuDS on the Site to manage the related risks of surface water flooding; and<br>▪ Risks to surface water during construction and the need for appropriate Site controls and surface water monitoring. |
| **Horsham District Council (HDC)** | Local Authority | Email and EIA Scoping Opinion Response 15/12/2025 | ▪ Drainage Engineer response within scoping Opinion:<br>No adverse comments. The most up to date and relevant Policy, Legislation and Guidance has been considered within **Section 13.3** of the Flood Risk & Drainage chapter. |
| **West Sussex County Council (WSCC)** | Lead Local Flood Authority | Email and EIA Scoping Opinion Response 11/12/2025 | ▪ We agree flood risk should be scoped in for this application.<br>▪ The FRA must include all sources of flood risk and follow PPG Flood risk and coastal change. The drainage strategy and supporting information submitted must use up-to-date parameters. It is strongly suggested that the use of open, source control SuDS is considered from the beginning of the design process for the masterplan for each phase, instead of reliance on traditional underground piped networks. Further guidance on this can be found in the PPG Flood risk and coastal change. |

## SCOPE OF THE ASSESSMENT

13.2.2 The scope of this assessment has been established through an ongoing scoping process. Further information can be found in **Volume 1, Chapter 5: Approach to EIA**.

13.2.3 This section provides an update to the scope of the assessment in accordance with the Scoping Opinion received from Horsham District Council in December 2025.

13.2.4 The following key issues related to flood risk and drainage as a result of the Proposed Development were stated in the EIA Scoping Report (**Volume 2, Appendix 1.1: EIA Scoping Report**):

- Changes in risk of surface water flooding at the Site and their effects on potential receptors during construction and in the final state;
- All sources of flooding to be considered;
- Changes to the quantity and quality of surface water discharged to the drainage network / surface water receptors; and
- Changes to quantity of foul water discharged to the foul water drainage network.

## ELEMENTS SCOPED OUT OF THE ASSESSMENT

13.2.5 The elements shown in **Table 13-2** are not considered to give rise to likely significant effects as a result of the Proposed Development and have therefore not been considered within this assessment:

**Table 13-2 - Elements Scoped Out of the Assessment**

| Element Scoped Out | Justification |
|---|---|
| Flood Risk – Fluvial / Tidal | The proposed Site is located in Flood Zone 1 |
| Flood Risk - Reservoir | Site is not affected by reservoir flooding |
| Flood Risk – Groundwater | Site is shown to be at minimal risk of groundwater flooding |
| Changes to the quantity of surface and foul water during Construction | Discharge during construction is not expected to be significant when compared to the baseline, and will be managed by the construction teams |

## ELEMENTS SCOPED INTO THE ASSESSMENT

### Construction Phase

13.2.6 The following elements are considered to have the potential to give rise to likely significant effects during construction of the Proposed Development and have therefore been considered within this assessment:

- Changes in risk of surface water flooding at the Site and their effects on potential receptors (e.g. construction workers);
- Changes in risk of surface water flooding on the surrounding area and their effects on potential receptors (e.g. residents and users); and
- Changes to the quality of surface water discharged to the drainage network / surface water receptors).

### Operational Phase

13.2.7 The following elements are considered to have the potential to give rise to likely significant effects during operation of the Proposed Development and have therefore been considered within this assessment:

- Changes in risk of surface water flooding at the Site and their effects on potential receptors (i.e. residents and users);
- Changes in risk of surface water flooding on the surrounding area and their effects on potential receptors (e.g. residents and users);
- Changes to quantity of surface water discharged to the surface water drainage network;
- Changes to quantity of foul water discharged to the foul water drainage network; and
- Changes to the quality of surface water discharged to the drainage network / surface water receptors.

## EXTENT OF THE STUDY AREA

13.2.8 The Site is approximately 116.7ha in size and located within the administrative boundary of HDC. The extent of the study area for this assessment is 500m from the Site Boundary.

13.2.9 A desk study has been undertaken to establish hydrological conditions and to understand the water environment in proximity to the Site. The assessment also considers the effects on downstream sewers and the local water supply distribution network.

## METHOD OF BASELINE DATA COLLATION

### Desk Study

13.2.10 The desk study included a review of available information to determine the baseline conditions in the study area. The following data sources have been reviewed:

- The Environment Agency ('EA') online database, 'Environment Agency, http://maps.environment-agency.gov.uk [accessed December 2025]' (**Ref. 13.2**);
- GOV.UK online flood risk information, 'GOV.UK – Long Term Flood Risk Information, public sector information licensed under the Open Government Licence [accessed December 2025]' (**Ref. 13.3**);
- **Volume 2, Appendix 13.1**: WSP Flood Risk Assessment and Outline Drainage Strategy (December 2025); and
- All other relevant legislation and guidance noted in the technical appendices.

### Site Visit And Surveys

13.2.11 A Site walkover was carried out on 13th June 2022 by representatives of the WSP team to assess the current status, land use and topography of the existing Site.

13.2.12 Topographical surveys have been undertaken across the Site and are summarised in **Table 13-3**.

**Table 13-3 – Schedule of Topographical Surveys of the Site**

| Topographical Survey Name | Survey Date | Area Covered |
|---|---|---|
| 25205 R1 | February 2022 | Main Site |
| 30859 | February 2022 | Christ's Hospital Car Park |

13.2.13 SWS Asset Records (dated 2022) that are appended to the FRA and ODS document (**Volume 2, Appendix 13.1**), have been used to inform this assessment. The ODS was produced in collaboration with the design team to develop an integrated dual purpose drainage system with the objective of producing a sustainable drainage system whilst providing amenity value and increasing opportunities for Biodiversity Net Gain (BNG).

13.2.14 Consultations with statutory consultees and other relevant authorities have been undertaken and the advice and guidance provided have been used to inform this assessment. A summary of consultations is outlined in **Table 13-1**.

## ASSESSMENT METHODOLOGY

13.2.15 The classification of significance (or risk) associated with each potential effect on the existing environment has been identified from an assessment of both the 'magnitude' of the change (or **consequence** of the change) due to the Proposed Development and the 'sensitivity' of the affected receptor to the change (that reflects the **probability** of the change causing an impact).

13.2.16 The magnitude of change / effect and sensitivity of the affected receptor / receiving environment have been assessed by adapting the relevant assessment tables within the following documents:

- The 'Design Manual for Roads and Bridges ('DMRB') HD 45/09: Road Drainage and the Water Environment; Design Manual for Roads and Bridges (2009) Volume 11, Section 3, Part 10 Road Drainage and the Water Environment' (**Ref. 13.4**) provides guidance for appraising significance on potential impacts that road projects may have on the water environment; and
- TAG Unit A3 Environmental Impact Appraisal – Impacts on the Water Environment chapter (**Ref. 13.5**).

13.2.17 Although the above two documents were developed to provide guidance for assessing potential effects that road projects may have on the water environment, they provide a general framework which can be used to provide a consistent assessment of the impact of development proposals on the water environment.

13.2.18 The criterion for determining magnitude (or consequence) of change / effect is detailed in **Table 13-4**.

**Table 13-4 – Classification of Magnitude of Effect (Consequence of Change)**

| Magnitude | Criteria | Examples |
|---|---|---|
| **High** | Results in a loss or major improvement of feature. | ▪ Significant fluvial flooding affecting off-site receptors caused or severely exacerbated by the proposals has a high probability of occurring (i.e. exceeding 1% annual probability) with potential high depth / velocity of water and risk to life and / or major financial effect; vice-versa the Proposed Development might significantly reduce or eliminate flooding for events with a high probability of occurring.<br>▪ Significant flooding which could potentially cause major effect at the Site including loss of life has a high probability of occurring (i.e., exceeding 1% annual probability).<br>▪ Pollution of potable source of abstraction / removal of major existing polluting discharge to a watercourse.<br>▪ Significant increase / reduction in the flow entering controlled systems causing a major change in the probability / magnitude of flooding.<br>▪ Loss or extensive change to a fishery.<br>▪ Change in Water Framework Directive (WFD) classification of river reach.<br>▪ Loss or gain of important fishery. |
| **Medium** | Results in a medium effect on integrity or improvement of feature or loss or gain of part of a feature. | ▪ Flooding which could potentially cause financial effect and disruption off-site, caused or exacerbated by the proposals, has a high probability of occurring (i.e., exceeding 1% annual probability).<br>▪ Flooding of the Site which could cause financial effect and disruption (but no loss of life) has a high probability of occurring (i.e. exceeding 1% annual probability).<br>▪ Contribution of significant effluent towards receiving river, but insufficient to change WFD classification.<br>▪ Loss of productivity of a fishery.<br>▪ Increase / reduction of amount of flow entering controlled systems (Sufficient enough to cause a noticeable change in the probability / magnitude of flooding). |
| **Low** | Results in a low effect on integrity of feature or loss of part of a feature. | ▪ Small increase / decrease in the likelihood or magnitude of flooding as a consequence of the Proposed Development.<br>▪ Limited increase / reduction of amount of flow entering controlled systems which would cause a small / barely noticeable change in the probability / magnitude of flooding). Measurable changes in feature, but of limited size and / or proportion. |

| Magnitude | Criteria | Examples |
|---|---|---|
| **Negligible** | Results in an effect on measure but insufficient magnitude to affect attribute. | ▪ The Proposed Development is unlikely to affect the integrity of the water environment and the effect on flooding is not significant.<br>▪ For example, discharge to watercourses but no significant loss / gain in water quality, probability of flooding, fishery, productivity or biodiversity<br>▪ No significant effect on the economic value of the feature. |

13.2.19 **Table 13-5** below indicates the general criteria used to assess the sensitivity of water receptors as part of this assessment.

**Table 13-5 – Classification of Sensitivity of Water Receptors (Probability of Change Impact)**

| Sensitivity | Criteria | Examples |
|---|---|---|
| **High** | An attribute with High quality and rarity, regional or national scale and limited potential for substitution. | ▪ Principal Aquifer providing potable water to a large population (groundwater).<br>▪ Important and notable fish population (surface water).<br>▪ WFD 'High' status water body acting as a potable water supply.<br>▪ Residents (on and off-site).<br>▪ Public sewer with available capacity subject to major improvement works.<br>▪ Major river providing a potable water resource to a large population. |
| **Medium** | An attribute with Medium quality and rarity, regional or national scale and limited potential for substitution. | ▪ WFD 'Good' status water body.<br>▪ Aquifer providing abstraction water for agricultural or industrial use (ground water).<br>▪ Commercial users (on and off-site).<br>▪ Construction workers.<br>▪ Public sewer with available capacity subject to some upgrades works.<br>▪ Minor river providing a water resource to a small population or industry. |
| **Low** | An attribute with Low quality and rarity, regional or national scale and limited potential for substitution. | ▪ WFD less than good status water body.<br>▪ Unproductive strata (ground water).<br>▪ Public sewer with available capacity.<br>▪ Heavily managed river and floodplain providing a local flood storage volume<br>▪ Minor river or drain of low quality. |

### SIGNIFICANCE CRITERIA

13.2.20 The significance level attributed to each effect is a reflection of the risk upon the existing environment of the Proposed Development and has been assessed based on a combination of the 'sensitivity' of the affected receptor(s) to change as a result of the Proposed Development (i.e. probability of a change having an impact) and the 'magnitude' of change arising from the Proposed Development (i.e. its consequence). The sensitivity of the affected receptor is assessed on a scale of high, medium and low while the magnitude of change is assessed on a scale of high, medium, low and negligible, as detailed in the table below.

13.2.21 A summary of the significance matrix can be seen in **Table 13-6**.

**Table 13-6 – Matrix for Determining the Significance of Effects**

| Sensitivity of Receptor | Magnitude of Change / Effect | | | |
|---|---|---|---|---|
| | High | Medium | Low | Negligible |
| **High** | Major | Moderate to Major | Minor to Moderate | Negligible |
| **Medium** | Moderate to Major | Moderate | Minor | Negligible |
| **Low** | Minor to Moderate | Minor | Negligible to Minor | Negligible |

### EFFECT SIGNIFICANCE

13.2.22 The following terms have been used to define the significance of the effects identified and apply to both beneficial and adverse effects:

- **Major effect**: where the Proposed Development could be expected to have a substantial improvement or deterioration on flood risk, on drainage and water resource availability and quality in the area;
- **Moderate effect**: where the Proposed Development could be expected to have a noticeable improvement or deterioration on flood risk, on drainage and water resource availability and quality in the area;
- **Minor effect**: where the Proposed Development could be expected to result in a perceptible improvement or deterioration on flood risk, on drainage and water resource availability and quality in the area; and
- **Negligible**: where no discernible improvement or deterioration is expected as a result of the Proposed Development on flood risk, on drainage and water resource availability and quality in the area; including instances where no change is confirmed.

13.2.23 As set out in **Volume 1, Chapter 5: Approach to EIA**, effects that are classified as **moderate or above** are considered to be **significant**. Effects classified as below **moderate** are considered to be **not significant**.

## 13.3 LEGISLATIVE FRAMEWORK, POLICY AND GUIDANCE

### LEGISLATIVE FRAMEWORK

13.3.1 The applicable legislative framework is summarised as follows:

- The Water Framework Directive (2000/60/EC) (**Ref. 13.6**);

- The Water Environment Regulations 2017 (**Ref. 13.7**);
- The Water Resources Act 1991 (**Ref. 13.8**);
- The Environment Act 1995 (updated March 2022) (**Ref. 13.9**);
- The Water Act 2003 (**Ref. 13.10**);
- The Water Act 2014 (**Ref. 13.11**);
- The Anti-Pollution Works Regulations 1999 (**Ref. 13.12**);
- The Water Industry Act 1991 (**Ref. 13.13**);
- Land Drainage Act 1991 (**Ref. 13.14**);
- Flood and Water Management Act 2010 (**Ref. 13.15**);
- The Environmental Damage (Prevention and Remediation) (England) Regulations 2015 (**Ref. 13.16**);
- Environmental Permitting (England and Wales) (Amendment) (No. 2) Regulations 2016 (**Ref. 13.17**);
- Horsham District Local Plan Regulation 18 Consultation Report (**Ref. 13.18**);
- Horsham District Local Plan Regulation 19 Draft 2023-2040 (2024) (**Ref. 13.19**);
- Horsham District Planning Framework (Excluding South Downs National Park) (2015) (**Ref. 13.20**);
- Southwater Neighbourhood Development Plan (2021) (**Ref. 13.21**); and
- West Sussex LLFA Policy for the Management of Surface Water (2018) (**Ref. 13.22**).

## PLANNING POLICY

13.3.2 Planning policy at the national and local level and its relevance to environmental design and assessment is confirmed in **Volume 1, Chapter 3: Description of the Proposed Development** of the ES and the Planning Statement by Nexus Planning which accompanies the application and examines the merits of the Proposed Development against the relevant planning policy.

13.3.3 The FRA in **Volume 2, Appendix 13.1** includes a summary of the relevant flood risk and drainage policies used for this assessment.

**National Planning Policy Framework (2024) (Ref. 13.23)**

13.3.4 The following paragraphs / policies within the National Planning Policy Framework (NPPF) are considered relevant to this assessment:

- Paragraph 170: Requires that “Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere.”;
- Paragraph 172: Explains that “the aim of the Sequential Test is to steer development to areas with the lowest probability of flooding”;
- Paragraph 181: Explains that “When determining any planning applications, local planning authorities should ensure that flood risk is not increased elsewhere”;
- Paragraph 182: Recommends that “major development should incorporate sustainable drainage systems which are proportionate to the nature and scale of the proposal. The systems used should:
    - take account of advice from the Lead Local Flood Authority;
    - have appropriate proposed minimum operational standards;

- have maintenance arrangements in place to ensure an acceptable standard of operation for the lifetime of the development."

**Planning Practice Guidance (2025)**

13.3.5 The below Planning Practice Guidance (PPG) should be read alongside the NPPF, with the following considered relevant to this assessment:

- Sustainable drainage systems: non-statutory technical standards (**Ref 13.24**);
- PPG for Flood Risk and Coastal Change (**Ref 13.25**);
- PPG for Water Supply, Wastewater and Water Quality (**Ref 13.26**); and
- Horsham District Local Plan Regulation 19 Draft 2023-2040 (2024) (**Ref 13.18**).

**GUIDANCE**

- Sustainable Design and Construction Supplementary Planning Guidance (2014) **(Ref. 13.27**);
- TAG Unit A3 EIA – Impacts on the Water Environment Chapter **(Ref. 13.28**);
- CIRIA 753 2015: The SuDS Manual **(Ref. 13.29**);
- Horsham District Council Strategic Flood Risk Assessment ('SFRA') (2020) **(Ref. 13.30)**
- Horsham District Council Strategic Flood Risk Assessment Update (2024); **(Ref. 13.31)**
- Horsham District Council Sequential and Exception Flood Risk Tests (2024); **(Ref. 13.32)**
- Water Research Centre ('WRc') Code for Adoption 2020 **(Ref. 13.33)**;
- Design Manual for Roads and Bridges – Road Drainage and the Water Environment HD 45/09 (2020) **(Ref. 13.4)**;
- Pollution Prevention Guidelines ('PPG') (2014)[1]; and

  PPG1: Understanding your environmental responsibilities (**Ref. 13.34**);
  PPG2: Above ground oil storage tanks **(Ref. 13.35**);
  PPG3: Choosing and using oil separators: prevent pollution **(Ref. 13.36);**
  PPG4: Treatment and disposal of sewage where no foul sewer if available **(Ref. 13.37);**
  PPG5: Works in, near or over watercourses: prevent pollution **(Ref. 13.38)**; and
  PPG6: Construction and demolition Sites: prevent pollution **(Ref. 13.39).**

- National SuDS Standards (2025). **(Ref. 13.1).**

## 13.4 BASELINE CONDITIONS

### EXISTING BASELINE

#### Site and Topography

13.4.1 The Site is located northwest of and adjacent to Southwater, West Sussex. The Site is bounded by the A24 to the north, Worthing Road to the east, Bonfire Hill to the south and Marlpost Road and Two Mile Ash Road to the west.

13.4.2 The existing site is predominately greenfield agricultural land. There is a dairy farm to the north of the Site and an ancillary barn building to the south adjacent to Great House Farmhouse, which are proposed to be demolished and / or converted for community use.

[1] While the EA has withdrawn their 'good practice' guidance, the Pollution Prevention Guidance are still relevant to this assessment.

13.4.3 Based on the topographical survey, the Site continuously falls from the north-west boundary to the southern boundary. Levels fall from +63.50m Above Ordnance Datum (AOD) in the northeast of the Site bordering Worthing Road, to +42.00m AOD in the south of the Site bordering Bonfire Hill.

**Geology**

13.4.4 British Geological Survey geological mapping **(Ref. 13.40)** indicated the geology of the Site to comprise the bedrock of the Horsham Stone Member (Sandstone) and Weald Clay Formation (Mudstone), which are summarised below and in **Table 13-7.**

- The Horsham Stone Member comprises sandstone, calcareous, generally fine-grained, micaceous, locally well laminated, pale grey to greenish / olive grey. Contains clayey partings and lignite fragments and rootlet traces. Frequently shows internal slumping and deformation.
- The Weald Clay Formation comprises dark grey thinly bedded mudstones (shales) and mudstones with subordinate siltstones, fine to medium-grained sandstones, including calcareous sandstone, shelly limestones and clay ironstones.
- BGS Borehole records show the nearest borehole is located to the north of the Site and borehole reference TQ12NE28 notes the following ground conditions at the Site.

**Table 13-7 – Summary of Ground Conditions**

| Stratum | Depth to Base of Strata (m bgl) | Thickness (m) | Typical Description |
|---|---|---|---|
| Topsoil | 0.3 | 0.3 | N/A |
| Clay with pieces of Sandstone | 2.4 | 2.1 | Orange-brown and grey clay with pieces of dark brown ferruginous sandstone. |
| Clay | 3.0 | 0.6 | Brown shaly clay. |

*Note: Brackets indicate maximum unproven depth or thickness*

**Hydrogeology**

13.4.5 DEFRA's Magic Map **(Ref. 13.41)** , the Horsham Stone Member is classified as a Secondary 'A' Aquifer. The Weald Clay Formation, present in areas of the Site is shown as unproductive strata.

- Secondary 'A' Aquifers are classified as permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.
- Unproductive strata are rock layers of drift deposits with low permeability that have negligible significance for water supply or river base flow.

13.4.6 In addition, the Site was indicated to be outside of any groundwater Source Protection Zones (SPZ) with regards to the protection of groundwater for potable supply.

13.4.7 No groundwater abstraction licences were identified within a 500m radius of the Site.

13.4.8 DEFRA's Magic Map **(Ref. 13.42)** notes that the Site is partially located within an area designated as High Groundwater Vulnerability and partially located within unproductive strata. The Groundwater Vulnerability Maps show *"the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a single square kilometre."*

**Existing Watercourses**

13.4.9 There are no Main Rivers in proximity to the Site.

13.4.10 There are two Ordinary Watercourses located on Site. These are tributaries of the River Arun and the River Adur identified within the SFRA **(Ref. 13.30)**

13.4.11 Environment Agency River Catchment Data **(Ref. 13.43)** identifies that the River Arun and River Adur have 'Poor' ecological water quality and high levels of harmful chemicals.

13.4.12 The mid Arun Valley downstream of the Site is a designated Special Area of Conservation (SAC), Special Protection Area (SPA) and Special Site of Scientific Interest (SSSI) detailed as follows:

*"The mid Arun Valley consists of three SSSIs in an area of wet meadows on the floodplain of the River Arun between Pulborough and Amberley (approximately 25km downstream of the Site), subject to occasional flooding, dissected by a network of ditches, several of which support rich aquatic flora and invertebrate fauna. The Site is of outstanding ornithological importance for wintering waterfowl and breeding waders."*

13.4.13 Southwater Country Park Lake, a reservoir, is located 1.25km southeast of the Site.

13.4.14 There are no other watercourses in the vicinity of the Site.

**Existing Artificial Watercourses / Waterbodies**

13.4.15 There are no artificial watercourses or waterbodies, such as canals or water storage areas, in proximity to the Site.

**Existing Flood Defences**

13.4.16 There are no existing flood defences in proximity to the Site.

**Existing Surface and Foul Water Drainage**

13.4.17 Southern Water are the existing statutory sewerage undertaker for the area. A review of the asset plans indicates that at present:

- There is an existing Southern Water drainage network located in close proximity to the Site, in a residential street adjacent to Christ's Hospital. The drainage network consists of both Surface and Foul drains flowing to the south of the residential road;
- There is a cluster of SWS 150mm diameter foul water sewers adjacent to the eastern border of the Site, within the bordering residential areas, and draining northwards;
- There is a SWS 100mm diameter foul water sewer crossing the Site Boundary north of the Site, heading west to combine the SWS 150mm diameter foul water sewer and continue north to a foul water pumping station, just off the edge of the Site;
- There is a SWS 150mm diameter foul water network within the residential parcel adjacent to the western edge of the Site; and

- The local SWS operated sewage treatment works, Horsham Water Treatment Works, is located approximately 1.2km to the northwest of the Proposed Development's northern boundary.

## EXISTING SOURCES OF FLOOD RISK

### Tidal / Fluvial Flooding

13.4.18 According to the Flood Map for Planning provided by the Environment Agency (EA) (**Ref. 13.2**) and the online GOV.UK Flood Map for Planning, the Site is situated within Flood Zone 1. This classification indicates that the land has a less than 0.1% annual probability of flooding from river (fluvial) or sea (tidal) sources, equating to a 1 in 1,000-year return period event. Consequently, the Site is assessed as having a 'very low' risk of flooding from fluvial or tidal origins.

13.4.19 Therefore, the risk of fluvial / tidal flooding at the Site has been assessed as **Low**.

### Surface Water Flooding

13.4.20 The EA' mapping of the likelihood of flooding risk from surface waters indicates the following classifications:

- Very low risk = less than a 0.1% (1 in 1000 year) chance of flooding in any given year.
- Low risk = between a 0.1% (1 in 1000 year) and a 1% (1 in100 year) chance of flooding in any given year.
- Medium risk = between 1% (1 in 100 year) and a 3.3% (1 in 30 year) chance of flooding in any given year.
- High risk = Greater than 3.3% (1 in 30 year) chance of flooding in any given year.

13.4.21 A review of the mapping shows the majority of the Site to lie within the **very low risk** category, however, there are some very localised and isolated areas adjacent to existing watercourses, particularly to the south-west of the Site where flood risk increases from **very low up to medium**.

13.4.22 Therefore, the overall risk of surface water flooding at the Site has been assessed to be **Low.**

### Sewer Flooding

13.4.23 The majority of the existing Site currently comprises greenfield agricultural land with only a small number of foul water sewers within the Site Boundary on the extremities. Therefore, the overall risk of sewer flooding at the Site has been assessed to be **Negligible.**

### Ground Water Flooding

13.4.24 The characteristics of the geology beneath the Site are indicated to be of a clayey nature and as such likely to restrict the groundwater located beneath from rising to the surface.

13.4.25 The Horsham SWRA 2024 Update **(Ref. 13.31)** indicates that the majority of the Site is within the Class 4 Zone which indicates "There is a negligible risk of groundwater flooding in this area and any groundwater flooding incidence has a chance of less than 1% annual probability of occurrence." A small area in the northern part of the Site is designated as Class 2 Zone, which denotes "There is a moderate risk of groundwater flooding in this area with a likelihood exceeding 1% annual probability." The Masterplan has been developed to exclude residential uses from this zone by proposing employment-related development instead. Additionally, raising the ground levels for this plot is necessary to ensure access to the parcel and to further mitigate the risk of groundwater flooding.

13.4.26 There are no historical reports of groundwater flooding at the Site. Therefore, the overall risk of ground water flooding at the Site has been assessed to be **Low.**

### Artificial Sources of Flooding

13.4.27 Based on the gov.uk online maps 'Flood risk from reservoirs', **(Ref. 13.2)** the Site has not been identified as within the extent of flooding from reservoirs. Based on the information available, the risk of flooding from reservoir and artificial watercourses at the Site has been assessed to be **Negligible.**

### FUTURE BASELINE

13.4.28 If no development takes place and existing land uses are retained, the majority of baseline parameters would remain unchanged.

13.4.29 However, as a result of climate change adaption policy the flood risk classification of the Site and design parameters in respect of surface water drainage are subject to change.

## 13.5 SENSITIVE RECEPTORS

### EXISTING RECEPTORS

13.5.1 **Table 13-8** below presents the classification of the existing receptors which might be impacted by the Proposed Development, based on the general criteria outlined in **Table 13-6**.

**Table 13-8– Schedule of Site Receptors**

| Category | Receptor | Details | Comment |
|---|---|---|---|
| Flood Risk (all sources including: river, surface water, groundwater, fluvial, tidal and artificial) | Site Workers | Persons involved in construction and future maintenance of the Proposed Development. | Flooding and / or spillage of contaminated waters or water usage restrictions may impact upon construction workers, but this may be mitigated as they have a role operating in teams and / or with prescribed systems. |
| | End Users | Residents / occupants of the Proposed Development. | Residents / users of the Site generally have limited awareness of flood risk; and rely upon the Site maintenance team / local water supplier to protect them from disruption due to flooding / pollution or water use restrictions. |
| Receiving Waters | The Gill, tributary of the River Adur | Site watercourse | The River Adur has poor ecological and chemical water quality, however, is an important river system and nonetheless supports wildlife. The catchment is not identified as a Nutrient Neutrality SSSI. |
| | The River Arun headwaters | Site watercourse | The River Arun demonstrates moderate ecological and chemical water quality, including locations near its origin. However, select portions of the river have received official designations under European Council (EC) and UK habitat legislation, such as Special Areas of Conservation (SAC), Sites of Special Scientific Interest (SSSI), and Ramsar Sites, with certain species afforded protection under EC regulations. Notably, the catchment area is not identified as a Nutrient Neutrality SSSI. |

| Category | Receptor | Details | Comment |
|---|---|---|---|
| Foul Water Disposal & Treatment | SWS Water Foul Drainage Network | Drainage network | The sensitivity of SWS's foul sewer drainage network, from a capacity and water quality perspective, is considered medium as Southern Water have identified that the proposed points of connection would require off-site upgrade works to accept the proposed flows. These upgrades would be undertaken by Southern Water and would take around 24 months to deliver post planning approval. The nearest point of connection with capacity currently is some 2km South-West of the Site at Barns Green WWTW. Being a foul sewer network, it is not particularly sensitive to potential pollutants. |

### FUTURE SENSITIVE RECEPTORS

13.5.2 The future receptors are considered to be the same as the existing receptors. No new future receptors are expected beyond those listed in Error! Reference source not found..

## 13.6 ASSESSMENT OF POTENTIAL EFFECTS, MITIGATION AND RESIDUAL EFFECTS

13.6.1 To carry out a robust risk assessment of the impact of the Proposed Development on the existing Site the first step is to characterise the sensitivity of the main receptors (**Table 13-9**), in accordance with the criteria outlined in **Table 13-6**.

**Table 13-9 – Classification of Sensitivity of Receptor (Probability of Change Impact)**

| Category | Receptor | Sensitivity | Description |
|---|---|---|---|
| Flood Risk to the public (all sources including river, surface water, groundwater, fluvial, tidal and artificial) | Construction Workers | Medium | Flooding may impact upon construction workers, but their sensitivity is lowered as a result of their competency in their role as well as operating in teams and / or prescribed systems. |
| | Residents / end users of the Site (Staff, residents, and public) | Medium | The occupant's vulnerability is considered to be medium as in the case of flood risk, they would be managed through the office / facilities management operations and / or building managers of the building.<br>The majority of the occupants are envisaged to be residents and as such, would likely follow management systems for such emergency events (including flood risk). |
| Receiving Waters | The Gill, tributary of the River Adur | Medium | The River Adur has poor ecological and chemical water quality, however, it is an important river system and nonetheless supports wildlife. The catchment is not identified as a Nutrient Neutrality SSSI. |
| | The River Arun headwaters | High | The River Arun demonstrates moderate ecological and chemical water quality, including locations near its origin. However, select portions of the river have received official designations under European Council (EC) and UK habitat legislation, such as Special Areas of Conservation (SAC), Sites of Special Scientific Interest (SSSI), and Ramsar Sites, with certain species afforded protection under EC regulations. Notably, the catchment area is not identified as a Nutrient Neutrality SSSI. |
| Foul Water Disposal & Treatment | SWS Foul Drainage Network | Medium | The sensitivity of SWS's foul sewer drainage network, from a capacity and water quality perspective, is considered medium as Southern Water have identified that the proposed points of connection would require off-site upgrade works to accept the proposed flows. These upgrades would be undertaken by Southern Water and would take around 24 months to deliver post planning approval. The nearest point of connection with capacity currently is some 2km South-West of the Site at Barns Green WWTW. Being a foul sewer network, it is not particularly sensitive to potential pollutants. Being a foul sewer network, it is not particularly sensitive to potential pollutants. |

13.6.2 The next step is to combine the sensitivity of the receptors (likelihood of change impact) with the magnitude of the change impact (or its consequence) to enable the classification of a “Risk Rating” for each effect, as detailed in **Table 13-10** and **Table 13-11**.

**Table 13-10 – Risk Assessment – Construction Phase**

| Receptor | Sensitivity | Effect | Magnitude | Risk | Justification |
|---|---|---|---|---|---|
| Site Workers | Medium | Flood risk | Low | **Minor** | The main risk is from surface water flooding during construction due to extreme rainfall and or spillage impacting receiving watercourse capacity. There may be a temporary, direct, short-term effect from isolated exposure of construction workers to foul or surface water spillage during the construction phase however, the risk of this will remain limited through adherence to the CEMP with water quality controls established and will lead to a **minor adverse** effect which is temporary and not significant. |
| Receiving Waters – The Gill | Medium | Water quality | Low | **Minor** | The main risk is from construction vehicles and general construction activities that can potentially give rise to the contamination of surface water by pollutants such as hydrocarbons, suspended solids and construction materials. This may lead to deterioration of on-site surface water quality and if discharged from the Site area may severely impact this receiving watercourse. This along with the movement of plant and machinery may damage soil stability, creating boggy conditions during wet weather and generate dust during dry periods, thereby increasing sedimentation entering the existing local surface watercourses. However, the risk of this will remain limited through adherence to the CEMP which would also contain a construction phase surface water drainage strategy to manage the risk of increased run off associated with stripping topsoil and exposing the impermeable weald clay along with water quality controls to be established and will lead to a **minor adverse** effect which is temporary and not significant. |

| Receptor | Sensitivity | Effect | Magnitude | Risk | Justification |
|---|---|---|---|---|---|
| Receiving Watercourses – The River Arun headwaters | High | quality | Low | **Minor to Moderate** | The main risk is from construction vehicles and general construction activities that can potentially give rise to the contamination of surface water by pollutants such as hydrocarbons, suspended solids and construction materials. This may lead to deterioration of on-site surface water quality and if discharged from the Site area may impact on the receiving watercourse, noting its high sensitivity. This along with the movement of plant and machinery may damage soil stability, creating boggy conditions during wet weather and generate dust during dry periods, thereby increasing sedimentation entering the existing local surface watercourses. However, the risk of this will remain limited through adherence to the CEMP which would also contain a construction phase surface water drainage strategy to manage the risk of increased run off associated with stripping topsoil and exposing the impermeable weald clay along with water quality controls to be established and will lead to a **minor adverse** effect which is temporary and not significant. |

| Receptor | Sensitivity | Effect | Magnitude | Risk | Justification |
|---|---|---|---|---|---|
| Foul Water Disposal & Treatment | Medium | Capacity overload & flood risk | Low | **Minor** | The main risk is that sewer runoff into the sewerage network may vary dependent on the tasks being carried out and there is the potential for contamination of surface water run-off during construction activities which could subsequently enter the public drainage network. Construction activities could result in runoff being contaminated with hydrocarbons, suspended solids and construction materials. The sensitivity of SWS's network is medium and the nature of the 'effect' could result in a direct, temporary, short-term impact on SWS network. However, the mitigation will include adherence to the CEMP and the implementation of temporary drainage systems on site as well as formalised temporary drainage connection applications to SWS. As a result, this will lead to a **minor adverse** effect which is temporary and not significant. |

**Table 13-11 – Risk Assessment – Operational Phase**

| Receptor | Sensitivity | Effect | Magnitude | Risk | Justification |
|---|---|---|---|---|---|
| End Users of the Site | Medium | Flood risk | Negligible | **Negligible** | The main risk is from surface water flooding due to extreme rainfall impacting receiving watercourse capacity. There may be a direct, long-term effect from exposure of end users of the Site to surface water flooding. However, the risk has been mitigated through the development of the outline surface water drainage strategy incorporating SuDS features to manage flood risk and mimic existing greenfield characteristics as well as providing water quality balance to surface waters arising. Furthermore, the SuDS features have the potential for biodiversity net gain. As a result, although the sensitivity is medium, the magnitude is negligible, and this will lead to a **negligible adverse** effect which is not significant. |

| Receptor | Sensitivity | Effect | Magnitude | Risk | Justification |
|---|---|---|---|---|---|
| Receiving Waters – The Gill | Medium | Water quality | Negligible | **Negligible** | The main risk is from polluted runoff entering this receiving watercourse from a surface spill for example. However, the risk has been mitigated through the development of the outline surface water drainage strategy incorporating SuDS features to manage water quality and mimic existing greenfield characteristics. In addition, the proposed pollution indices have been assessed and multi-stage treatment provided in line with CIRIA guidance to minimise pollution risk. Furthermore, the SuDS features have the potential for biodiversity net gain. As a result, although the sensitivity is medium, the magnitude is negligible, and this will lead to a **negligible adverse** effect which is not significant. |
| Receiving Waters – The River Arun headwaters | High | Water quality | Negligible | **Negligible** | The main risk is from polluted runoff entering this receiving watercourse from a surface spill for example, and is particularly exacerbated by the high sensitivity of this watercourse. However, the risk has been mitigated through the development of the outline surface water drainage strategy incorporating SuDS features to manage water quality and mimic existing greenfield characteristics. In addition, the proposed pollution indices have been assessed and multi-stage treatment provided in line with CIRIA guidance to minimise pollution risk. Furthermore, the SuDS features have the potential for biodiversity net gain. As a result, although the sensitivity is high, the magnitude is negligible, and this will lead to a **negligible adverse** effect which is not significant. |

| Receptor | Sensitivity | Effect | Magnitude | Risk | Justification |
|---|---|---|---|---|---|
| Foul Water Disposal & Treatment | Medium | Capacity overload & flood risk | Low | **Minor** | The main risk is longer term overloading of the SWS foul sewer network due to the Proposed Development. However, in mitigation SWS have carried out a capacity review and have confirmed that their network will have capacity to receive foul water flows from the new development, once they have undertaken reinforcement work on their network that they are obliged to do, when required, to support future development. As a result, although the sensitivity is medium, the magnitude is low, and this will lead to a **minor adverse** effect which is not significant. |

## CONSTRUCTION PHASE

13.6.4 From an assessment of the risks detailed in **Table 13-10** the overall risk to receptors from potential effects relating to the flood risk, drainage and water resources on the Proposed Development Site is considered **Minor**, following mitigation. **Table 13-12** below outlines the assessment of potential effects, additional mitigation, residual effects and monitoring during construction.

**Table 13-12 – Assessment of Potential Effects, Additional Mitigation, Residual Effects and Monitoring during Construction**

| **Sensitive receptor** | **Site Workers** |
|---|---|
| **Potential effects** | Risk to health of construction workers due to the potential for surface water or flooding in combination with construction activities.<br>The sensitivity of construction workers is medium and the magnitude of change, is medium before mitigation. |
| **Additional mitigation** | A Site Construction Environmental Management Plan ('CEMP') would be adopted during this phase of development. These plans would include local flood prevention measures, in line with best practice and policy. Temporary facilities would be incorporated during this phase to ensure the management of surface water and foul water runoff is sufficient until the permanent solutions are incorporated, as well as the management of groundwater during any excavation. Further investigations, would be undertaken to understand effects on the ground conditions (including hydrogeology). |
| **Residual effects and monitoring** | The sensitivity of construction workers is medium and the magnitude of effect, following mitigation is low. Therefore, there is likely to be a direct, temporary, short-term effect on construction workers of **minor adverse effect (not significant)** following the implementation of mitigation measures that will be monitored throughput the construction phase by the construction team. |

| **Sensitive receptor** | **The Gill (River Adur Tributary)** |
|---|---|
| **Potential effects** | Construction vehicles and general construction activities can potentially give rise to the contamination of surface water by pollutants such as hydrocarbons, suspended solids and construction materials.<br>The sensitivity of River Adur Tributary is medium, and the magnitude of change is medium before mitigation. |
| **Additional mitigation** | A CEMP would be adopted during this phase detailing the procedures and methods that must be followed to minimise the potential environmental effects of construction activities at the Site. The CEMP would also contain a construction phase surface water drainage strategy to manage the risk of increased run off associated with stripping topsoil and exposing the impermeable weald clay. |
| **Residual effects and monitoring** | The sensitivity of River Adur Tributary is medium and the magnitude of effect, following mitigation is low. Therefore, there is likely to be a direct, temporary, short-term effect on construction workers of **minor adverse effect (not significant)** following the implementation of mitigation measures that will be monitored throughput the construction phase by the construction team. |

| | |
|---|---|
| **Sensitive receptor** | **River Arun Headwaters** |
| **Potential effects** | Construction vehicles and general construction activities can potentially give rise to the contamination of surface water by pollutants such as hydrocarbons, suspended solids and construction materials.<br>The sensitivity of River Arun Headwaters is high and the magnitude of change, prior to mitigation is medium. |
| **Additional mitigation** | A CEMP would be adopted during this phase detailing the procedures and methods that must be followed to minimise the potential environmental effects of construction activities at the Site. The CEMP would also contain a construction phase surface water drainage strategy to manage the risk of increased run off associated with stripping topsoil and exposing the impermeable weald clay. |
| **Residual effects and monitoring** | The sensitivity of River Arun Headwaters is high and the magnitude of effect, following mitigation is low. Therefore, there is likely to be a direct, temporary, short-term effect of **minor adverse effect (not significant)** following the implementation of mitigation measures that will be monitored throughput the construction phase by the construction team. |

| | |
|---|---|
| **Sensitive receptor** | **SWS Foul Drainage Network** |
| **Potential effects** | There will be an increase in flows to the SWS foul sewer network, with the potential for overloading and harmful contamination.<br>The sensitivity of the drainage network workers, and the network they operate is medium and the magnitude of change, prior to mitigation is medium. |
| **Additional mitigation** | A CEMP would be adopted and would detail the management of discharges prior to entering the public drainage network. All construction activities would be undertaken in accordance with the EA PPGs. |
| **Residual effects and monitoring** | The sensitivity of the SWS network is medium and the magnitude of effect, following mitigation is low. Therefore, there is likely to be a direct, temporary, short-term effect on the network of **minor adverse effect (not significant)** following the implementation of mitigation measures that will be monitored throughput the construction phase by the construction team. |

## OPERATIONAL PHASE

13.6.5 From an assessment of the risks detailed in **Table 13-11** the overall risk to receptors from potential effects relating to the flood risk, drainage and water resources on the Proposed Development Site is considered **Low**, following mitigation. **Table 13-13** below outlines the assessment of potential effects, additional mitigation, residual effects and monitoring during construction.

**Table 13-13 – Assessment of Potential Effects, Additional Mitigation, Residual Effects and Monitoring during Operation**

| Sensitive receptor | **End Users of the Site** |
|---|---|
| Potential effects | The main effect would potentially be from surface water flooding due to extreme rainfall impacting receiving watercourse capacity. There may a direct, long-term effect from exposure of end users of the Site to surface water flooding. |
| Additional mitigation | The risk has been mitigated through the development of the outline surface water drainage strategy incorporating SuDS features to manage flood risk and mimic existing greenfield characteristics as well as providing water quality balance to surface waters arising. |
| Residual effects and monitoring | The sensitivity of end users is medium, however, following the implementation of the outline drainage strategy the magnitude is negligible, and this will lead to a **negligible adverse** effect **(not significant)**, and will be monitored and maintained by the new drainage network operations management company. |

| Sensitive receptor | **The Gill (River Adur Tributary)** |
|---|---|
| Potential effects | The main effect could be from polluted runoff entering this receiving watercourse from a surface spill for example. The sensitivity of River Adur Tributary is medium, and the magnitude of change is medium before mitigation. |
| Additional mitigation | The risk has been mitigated through the development of the outline surface water drainage strategy incorporating SuDS features to manage water quality and mimic existing greenfield characteristics. In addition, the proposed pollution indices have been assessed and multi-stage treatment provided in line with CIRIA guidance to minimise pollution risk. |
| Residual effects and monitoring | The sensitivity of River Adur Tributary is medium and the magnitude of effect, following mitigation is negligible. Therefore, this will lead to a **negligible adverse** effect **(not significant)** following the implementation of mitigation measures that will be monitored and maintained by the new drainage network operations management company. |

| Sensitive receptor | **River Arun Headwaters** |
|---|---|
| Potential effects | The main effect could be from polluted runoff entering this receiving watercourse from a surface spill for example. The sensitivity of River Arun Headwaters is high and the magnitude of change is medium before mitigation. |
| Additional mitigation | The risk has been mitigated through the development of the outline surface water drainage strategy incorporating SuDS features to manage water quality and mimic existing greenfield characteristics. In addition, the proposed pollution indices have been assessed and multi-stage treatment provided in line with CIRIA guidance to minimise pollution risk. |
| Residual effects and monitoring | The sensitivity of River Arun Headwaters is high and the magnitude of effect, following mitigation is low. Therefore, this will lead to a **negligible adverse** effect **(not significant)** following the implementation of mitigation measures that will be monitored and maintained by the new drainage network operations management company. |

| | |
|---|---|
| **Sensitive receptor** | **SWS Foul Drainage Network** |
| **Potential effects** | As the Site is greenfield, the activities are expected to significantly modify the volumetric and / or rate of discharge to the SWS foul drainage network. The sensitivity of SWS's sewer network is medium and the magnitude of change, prior to mitigation is medium. |
| **Additional mitigation** | A pre-development enquiry with SWS in July 2022 confirmed that capacity will be available in their network for the Proposed Development, subject to their completion of off-site reinforcement works that they are obliged to carry out to facilitate future development. Furthermore, water use restrictions to alleviate water supply concerns will result in a reduced foul water discharge compared to the usual expected discharge from a development of this size. |
| **Residual effects and monitoring** | The sensitivity of the SWS network is medium and the magnitude of effect, following mitigation is low. Therefore, this will lead to a **minor adverse effect (not significant)** following the implementation of mitigation measures that will be monitored and maintained by SWS. |

### ASSESSMENT AGAINST FUTURE BASELINE

13.6.6 When the future baseline is assessed against the end use of the Proposed Development concerns relating to the availability of water resource, drainage and the minimisation of flood risk, the mitigation proposals detailed herein have led to the **Low** risk classification.

13.6.7 In the future, climate changes are projected to lead to warmer, wetter winters and hotter, drier summers, and the increased levels of rainfall would potentially cause increased surface water run-off. However, an allowance has been made for climate change in the outline drainage strategy to ensure robustness of the SuDS drainage strategy.

13.6.8 Continued liaison will be required with sewerage undertaker, SWS, regarding the off-site drainage capacity.

## 13.7 IN-COMBINATION CLIMATE IMPACTS

13.7.1 The In-combination Climate Change Impact (ICCI) assessment reflects the receptors identified in this chapter with the combined consideration of future climate change trends and impacts. The assessment uses expert judgement on whether climate change would have a combined effect and whether the efficacy of the mitigation measures would be altered throughout the Proposed Development lifetime. Where a combined effect is identified, additional embedded mitigation measures have been proposed.

13.7.2 Temporary effects are not considered within the ICCI, due to the limited exposure to climate change trends during this timeframe.

13.7.3 The impact of future climate change has been considered throughout the assessment and no in-combination climate change impacts have been identified which could affect the summary of significance of effects or the efficacy of the reported mitigation measures throughout the lifetime of the Proposed Development.

13.7.4 This is due to the impacts of climate change have already been incorporated into the mitigation measures to be implemented as part of the Proposed Development.

## 13.8 OPPORTUNITIES FOR ENVIRONMENTAL ENHANCEMENT

13.8.1 Sustainable drainage design provides opportunities for targeted enhancement of biodiversity, and amenity. In addition, naturalisation / de-culverting of watercourses, or sensitive culvert design where these need to be retained can provide benefits to aquatic species.

13.8.2 The conversion of farmland to other uses, can provide improvements to the quality of surface water discharge by removal agricultural activities, particularly nutrient runoff, soil erosion, and pesticide application, are leading causes of water pollution,

## 13.9 SUMMARY

13.9.1 **Table 13-14** provides a summary of the findings of the assessment.

**Table 13-14 - Summary of Effects**

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Construction Phase** | | | | | |
| Site Workers | Flood risk | **Moderate Adverse (significant)** T / D / ST | ▪ Adherence to CEMP<br>▪ Temporary works drainage designs | **Minor Adverse (not significant)** T / D / ST | Ongoing monitoring of adherence to CEMP during construction phase by construction teams |
| Receiving Watercourses – The Gill | Water quality | **Moderate Adverse (significant)** T / D / ST | ▪ Adherence to CEMP<br>▪ Temporary works pollution prevention measures | **Minor Adverse (not significant)** T / D / ST | Ongoing monitoring of adherence to CEMP during construction phase by construction teams |
| Receiving Watercourses – The River Arun headwaters | Water quality | **Moderate to Major Adverse (significant)** T / D / ST | ▪ Adherence to CEMP<br>▪ Temporary works pollution prevention measures | **Minor Adverse (not significant)** T / D / ST | Ongoing monitoring of adherence to CEMP during construction phase by construction teams |
| SWS Foul Drainage Network | Capacity overload & flood risk | **Moderate Adverse (significant)** T / D / ST | ▪ Adherence to CEMP<br>▪ Temporary drainage connection applications agreed with SWS | **Minor Adverse (not significant)** T / D / ST | Ongoing monitoring of adherence to CEMP during construction phase by construction teams |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Operational Phase** | | | | | |
| End Users of the Site | Flood risk | **Moderate Adverse (significant)** P / D / LT | ▪ outline surface water drainage strategy incorporating SuDS to limit discharge to existing environment to greenfield runoff rates<br>▪ potential for amenity value | **Negligible Adverse (not significant)** P / D / LT | • Maintained by drainage network operational maintenance co., including incident response<br>• Monitoring of performance by Management Co. |
| Receiving Watercourses – The Gill | Water quality | **Moderate Adverse (significant)** P / D / LT | ▪ outline surface water drainage strategy incorporating SuDS to provide water quality balance<br>▪ water quality balance<br>▪ removal of polluting agricultural activities | **Negligible Adverse (not significant)** P / D / LT | • Maintained by drainage network operational maintenance co., including incident response<br>• Monitoring of performance by Management Co. |
| Receiving Watercourses – The | Water quality | **Moderate to Major Adverse (significant)** | ▪ outline surface water drainage strategy | **Negligible Adverse (not significant)** | • Maintained by drainage network operational |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| River Arun headwaters | | P / D / LT | incorporating SuDS to provide water quality balance<br>▪ water quality balance<br>▪ removal of polluting agricultural activities | P / D / LT | maintenance co., including incident response<br>• Monitoring of performance by Management Co. |
| SWS Foul Drainage Network | Capacity overload & flood risk | **Moderate Adverse (significant)**<br>P / D / LT | ▪ capacity check by SWS to confirm capacity subject to reinforcement works | **Minor Adverse (not significant)**<br>P / D / LT | • SWS to carry out reinforcement works and then manage and monitor performance of their network to receive development flows |

Key to table:

**P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable**

## 13.10 REFERENCES


- **Ref 13.1:** National SuDS Guidance 2025
- **Ref 13.2**: The Environment Agency ('EA') online database, 'Environment Agency, http://maps.environment-agency.gov.uk [accessed December 2025]'
- **Ref 13.3**: GOV.UK online flood risk information, 'GOV.UK – Long Term Flood Risk Information, public sector information licensed under the Open Government Licence [accessed December 2025]'
- **Ref 13.4**: The 'Design Manual for Roads and Bridges ('DMRB') HD 45/09: Road Drainage and the Water Environment; Design Manual for Roads and Bridges (2009) Volume 11, Section 3, Part 10 Road Drainage and the Water Environment'
- **Ref 13.5**: TAG Unit A3 Environmental Impact Appraisal – Impacts on the Water Environment chapter
- **Ref 13.6**: The Water Framework Directive (2000/60/EC)
- **Ref 13.7**: The Water Environment Regulations 2017
- **Ref 13.8**: The Water Resources Act 1991
- **Ref 13.9**: The Environment Act 1995 (updated March 2022)
- **Ref 13.10**: The Water Act 2003
- **Ref 13.11**: The Water Act 2014
- **Ref 13.12**: The Anti-Pollution Works Regulations 1999
- **Ref 13.13**: The Water Industry Act 1991
- **Ref 13.14**: Land Drainage Act 1991
- **Ref 13.15**: Flood and Water Management Act 2010
- **Ref 13.16**: The Environmental Damage (Prevention and Remediation) (England) Regulations 2015
- **Ref 13.17**: Environmental Permitting (England and Wales) (Amendment) (No. 2) Regulations 2016
- **Ref 13.18**: Horsham District Local Plan Regulation 18 Consultation Report
- **Ref 13.19**: Horsham District Local Plan Regulation 19 Draft 2023-2040 (2024)
- **Ref 13.20**: Horsham District Planning Framework (Excluding South Downs National Park) (2015)
- **Ref 13.21**: Southwater Neighbourhood Development Plan (2021)
- **Ref 13.22**: West Sussex LLFA Policy for the Management of Surface Water (2018)
- **Ref 13.23**: National Planning Policy Framework (2024)
- **Ref 13.24**: Sustainable drainage systems: non-statutory technical standards
- **Ref 13.25**: PPG for Flood Risk and Coastal Change
- **Ref 13.26**: PPG for Water Supply, Wastewater and Water Quality
- **Ref 13.27**: Sustainable Design and Construction Supplementary Planning Guidance (2014)
- **Ref 13.28**: TAG Unit A3 EIA – Impacts on the Water Environment Chapter
- **Ref 13.29**: CIRIA 753 2015: The SuDS Manual
- **Ref 13.30**: Horsham District Council Strategic Flood Risk Assessment ('SFRA') (2020)
- **Ref 13.31**: Horsham District Council Strategic Flood Risk Assessment Update (2024)
- **Ref 13.32**: Horsham District Council Sequential and Exception Flood Risk Tests (2024)
- **Ref 13.33**: Water Research Centre ('WRc') Code for Adoption 2020
- **Ref 13.34**: PPG1: Understanding your environmental responsibilities
- **Ref 13.35**: PPG2: Above ground oil storage tanks
- **Ref 13.36**: PPG3: Choosing and using oil separators: prevent pollution

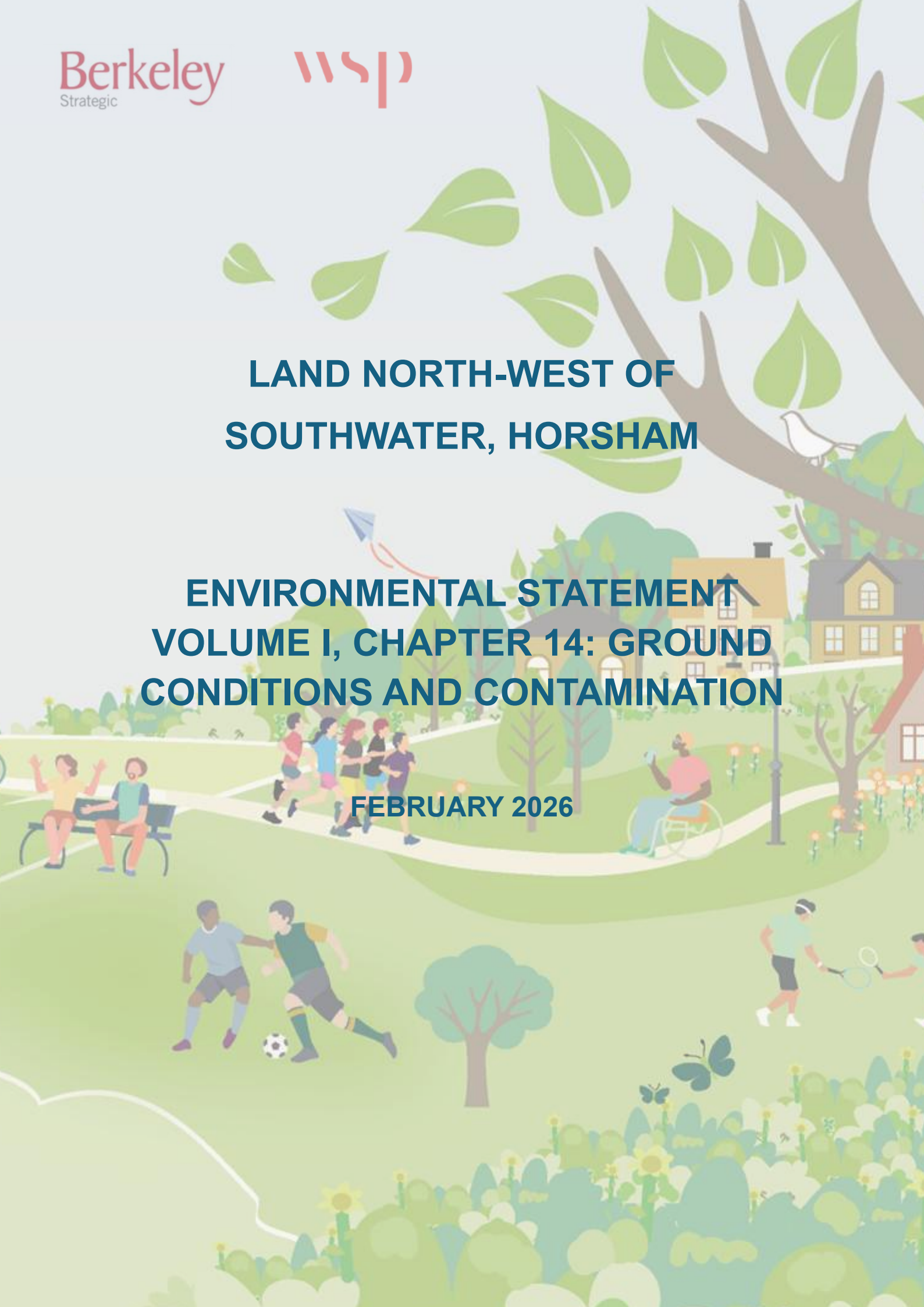
- **Ref 13.37**: PPG4: Treatment and disposal of sewage where no foul sewer if available
- **Ref 13.38**: PPG5: Works in, near or over watercourses: prevent pollution
- **Ref 13.39**: PPG6: Construction and demolition Sites: prevent pollution
- **Ref 13.40**: BGS online Geology Mapping. Available online at: Maps - British Geological Survey
- **Ref 13.41**: DEFRA's Magic Map Aquifer Classification-Mapping
- **Ref 13.42**: DEFRA's Magic Map Groundwater Vulnerability-Mapping
- **Ref 13.43**: Environment Agency River Catchment Data


## 13.11 APPENDICES

**Appendix 13-1:** WSP Flood Risk Assessment (FRA) and Outline Drainage Strategy (ODS)

WSP House
70 Chancery Lane
London
WC2A 1AF

**wsp.com**



# LAND NORTH-WEST OF SOUTHWATER, HORSHAM

# ENVIRONMENTAL STATEMENT VOLUME I, CHAPTER 14: GROUND CONDITIONS AND CONTAMINATION

FEBRUARY 2026

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# 14. GROUND CONDITIONS AND CONTAMINATION

## 14.1. INTRODUCTION

14.1.1. This chapter reports the outcome of the assessment of likely significant effects arising from the Proposed Development upon ground conditions and contamination.

14.1.2. The assessment of ground conditions and contamination has established that the following additional mitigation measures are required:

- Further detailed intrusive investigation works should be carried out in order to clarify the geotechnical and geo-environmental issues pertaining to redevelopment of the Site;
- Further soil, groundwater and surface water (if encountered) sampling and analysis should be undertaken to inform subsequent geotechnical and geo-environmental risk assessment;
- Further ground gas monitoring and assessment should be undertaken to characterise the Site's ground gas regime;
- Further laboratory analysis, on soil samples recovered from the exploratory holes for a range of geotechnical parameters to support foundation design and the like;
- Further laboratory analysis, on shallow soil samples and groundwater samples recovered from the exploratory holes, for an analytical suite to include the potential contaminants identified within the Preliminary Ground Appraisal Report **(Volume 2, Appendix 14.2)** and encountered during any intrusive investigation. The suite should include commonly occurring metals, non-metals, asbestos, TPH, and PAH;
- Waste Acceptance Criteria testing may be required if surplus spoil is to be disposed of from the development; and
- Some nutrient balancing of Topsoil maybe required for complete compliance of BS3882:2015 within private gardens.

14.1.3. The following residual effects have been identified:

- Remediation in the form of a soil cover system or ground gas protection measures may be required in some areas of the Site, to ensure there is no risk to human health. **Minor Beneficial (not significant) effect**; and
- There may also be some loss of agricultural land, but this is land which would mostly be classified as not better than Grade 3b and is therefore not considered as best and most versatile land. **Minor Adverse (not significant) effect.**

14.1.4. The following monitoring requirements have been identified:

- Further soil, groundwater and surface water (if encountered) sampling and analysis should be undertaken to inform the subsequent geotechnical and geo-environmental risk assessment; and
- Further ground gas monitoring and assessment should be undertaken to characterise the Site's ground gas regime.

14.1.5. The following environmental enhancement opportunities have been identified:

- There may be opportunities to clean up land contamination in parts of the Site, but further intrusive ground investigation would be required to ascertain the presence / level of any contaminations and therefore the amount of environmental enhancement that could be gained.

14.1.6. The remainder of this chapter describes the assessment methodology and the baseline conditions relevant to the assessment, which have been used to reach these conclusions, as well as a summary of the likely significant effects leading to the additional mitigation measures required to avoid, prevent, reduce or, if possible, offset any likely significant adverse effects, and the likely residual effects and any required monitoring after these measures have been employed. Opportunities for environmental enhancement, where such opportunities exist, are also discussed.

14.1.7. This chapter (and its associated figures and appendices) is intended to be read as part of the wider ES, with particular reference to the:

- **Volume 2, Appendix 14.1**: Agricultural Land Assessment [Ref: GE20620/ALAv7/FEB26] **(Ref. 14.1)**; and
- **Volume 2, Appendix 14.2:** Preliminary Ground Appraisal Report [Ref:GE23322/PGARv6/FEB26] **(Ref. 14.2).**

## 14.2. CONSULTATION, SCOPE, METHODOLOGY AND SIGNIFICANCE CRITERIA

### CONSULTATION UNDERTAKEN TO DATE

14.2.1. **Table 14-1** provides a summary of the consultation activities undertaken in support of the preparation of this assessment.

**Table 14-1 - Summary of Consultation Undertaken**

| Body / Organisation | Individual / Stat Body / Organisation | Meeting Dates and other Forms of Consultation | Summary of Outcome of Discussions |
|---|---|---|---|
| Public Health England (PHE) | Jackie Duggan, Principal Scientist Special Initiatives, Rare and Imported Pathogens Laboratory and Senior Scientific Advisor, Testing Technology Validation, UK Health Security Agency (PHE) | Emails between PHE and GESL of 18th May and 31st May 2022. | Email from PHE confirming intrusive investigation of potential anthrax burns Site could go ahead without any need for further risk assessment. |
| Horsham DC | EHO | | 2022 application consultation response confirming information ok with conditions recommended. (**Ref. 14.3**) |

### SCOPE OF THE ASSESSMENT

14.2.2. The scope of this assessment has been established through an ongoing scoping process. Further information can be found in **Volume 1, Chapter 5: Approach to EIA**.

14.2.3. This section provides an update to the scope of the assessment and re-iterates the evidence base for scoping out elements following further iterative assessment.

## ELEMENTS SCOPED OUT OF THE ASSESSMENT

14.2.4. The elements shown in **Table 14-2** are not considered to give rise to likely significant effects as a result of the Proposed Development and have therefore not been considered within this assessment:

**Table 14-2 - Elements Scoped Out of the Assessment**

| Element Scoped Out | Justification |
|---|---|
| Historic Deposits - infilled former pit (North Site) | This area is proposed for use as a car park. Based on its identified use within the Preliminary Risk Assessment (PRA) and Conceptual Site Model (CSM), and given the low magnitude of risk, this element has been scoped out as a contamination risk. |
| Off-site Railway Infrastructure, Tank and Historic Laundry (North Site) | These features are located within areas proposed for car parking. Given the proposed land use and the assessed low risk, they have been scoped out of the contamination assessment. |
| Potential for slope stability issues (Main Site) | This area is to be retained, and no works are proposed that would affect slope stability. As such, this element has been scoped out of the assessment. |
| Potential for dissolution features | Soluble or rocks prone to dissolution are not thought to be present beneath the Site. |

## ELEMENTS SCOPED INTO THE ASSESSMENT

### Construction Phase

14.2.5. The following elements are considered to have the potential to give rise to likely significant effects during construction of the Proposed Development and have therefore been considered within this assessment:

**Table 14-3 - Elements Scoped into the Assessment - Construction**

| Element Scoped In | Justification |
|---|---|
| Made Ground, Suitability of shallow soils (Main Site) | Some areas of made ground are likely in areas where landfill or historic pits have been identified. |
| Historic Landfill / Land Raise Deposits (Main Site) | There are three areas of recorded historic landfill on-site. These areas have been subject to preliminary intrusive investigations. |
| Historic Railway Line (Main Site) | Some contaminants may be present in infilled materials within cuttings and embankments of the former railway. These areas have been subject to preliminary intrusive investigations. |
| Unknown Tanks (Main Site) | Some contamination is possible around tanks on the Site. |
| Historic Tank (North Site) | There is a tank identified to the north of the Site, which is an unknown condition and there is a risk of contaminants leaching onto the Site. |

| Element Scoped In | Justification |
|---|---|
| Naturally occurring compounds that could affect buried concrete (sulphates) | Where Weald Clay is present on the Site, elevated levels of sulphate, pyrite and gypsum concentrations may occur. |
| Loss of best quality Agricultural Land | An Agricultural Lane Assessment has been undertaken on the Site, which has graded the land as Sub-Grade 3b agricultural land. |
| Lateral changes in ground conditions | Soil consistency could change where bedrock or superficial geology changes on the Site, or where trees are present. |
| Shrinkable soils | The Weald Clay is susceptible to medium to high volume change potential. |
| Significant depths of Made Ground | There are known areas of landfill and engineered fill on the Site that have that have been partly assessed by the preliminary intrusive investigation. |
| Shallow Groundwater | There is the potential for perched groundwater at shallow depths in the Weald Clay and Horsham Stone. |
| Potential for shallow soakaways to be unviable | The Weald Clay and Horsham stone both have the potential for low to very low infiltration rates. |

14.2.6. It should be noted that while only preliminary intrusive investigations have been undertaken on the Site to date and further detailed investigation is required to inform the geotechnical design and geo-environmental conditions on-site. Ground conditions are not anticipated to prohibit development. The factors presented above are required to inform detailed design.

**Operation Phase**

14.2.7. The following elements are considered to have the potential to give rise to likely significant effects during operation of the Proposed Development and have therefore been considered within this assessment:

**Table 14-4 - Elements Scoped into the Assessment - Operation**

| Element Scoped In | Justification |
|---|---|
| Made Ground, shallow soils (Main Site) | Made ground may be present in areas of the Site and may be unsuitable for either re-use or being left in-situ. The suitability of shallow soils and the potential need for off-site disposal require further consideration. |
| Historic Landfill / Land Raise Deposits (Main Site) | Any leaching of contaminants or concentrations of ground gases from fill materials could pose a risk to human health and the potential for longer term remediation measures or off-site disposal should be considered. |
| Historic Railway Line (Main Site) | Any leaching of contaminants or concentrations of ground gases caused by legacy use of the sites could pose a risk to human health and the potential for longer term remediation measures or off-site disposal should be considered |

| Element Scoped In | Justification |
|---|---|
| Unknown Tanks (Main Site) | Removal of tanks should be considered to prevent the long-term leaching of contents from the tanks. Leached contaminants could cause the spread of pollutants and / or ground gas concentrations to build up on the Site. Remediation or monitoring measures or off-site disposal should be considered. |
| Historic Tank (North Site) | Removal of the tank should be considered to prevent the long-term leaching of contents from the tank. Leached contaminants could cause the spread of pollutants and / or ground gas concentrations to build up on the Site. Remediation or monitoring measures or off-site disposal should be considered. |
| Loss of best and most versatile Agricultural Land | Once housing is built, best and most versatile agricultural land is permanently removed from agricultural use. The land is sealed by buildings, roads, gardens and infrastructure and cannot function as an agricultural resource for the lifetime of the development. |
| Shallow Groundwater | Any shallow groundwater may fluctuate seasonally and in response to rainfall, remain present beneath buildings and infrastructure, and interact continuously with foundations, services and drainage systems. |
| Ground Gases | There is a potential for ground gases on the Site from the presence of historic tanks, landfill, raised deposits and made ground. Consideration should be given to monitoring and other remedial measures.. |

14.2.8. Once risks have been fully assessed, remediation measures would be implemented during the construction phase to address these. A discovery strategy will be in place during the construction phase for any unforeseen ground conditions. This would include both areas of contamination and any adverse geotechnical conditions. No elements, contamination or otherwise, that could impact on the health and safety of future users of the Site should remain by the operational phase.

## EXTENT OF THE STUDY AREA

14.2.9. The study area has been defined as the Site Boundary shown in **KPK-A019-0005-Boundary Plan-RevG.**

## METHOD OF BASELINE DATA COLLATION

### Desk Study

14.2.10. The scope of the preliminary intrusive investigation was based historic desk studies and borehole logs that had been previously undertaken on the Site.

### Site Visit

14.2.11. A site walkover was undertaken on the 7th February 2022 to assess the status, land conditions and land use of the Site, at the time of the walkover. The land use of the Site is understood to have remained unchanged since this time.

## PRELIMINARY SITE INVESTIGATION

14.2.12. A preliminary investigation has been carried out to target areas potentially affected by the history of the Site and to sample Topsoil across the Site for the Agricultural Land Assessment **(Volume 2, Appendix 14.1)**. Site works consisted of 19No. window sample positions (WS15 now falls outside Site Boundary) to support a preliminary assessment of geotechnical and environmental conditions and 27No. handpits (HP07, HP10-11, HP15, HP24, HP28, and HP30-31 now fall outside Site Boundary) to support the Agricultural Land Assessment **(Volume 2, Appendix 14.1)**. This investigation should be considered as providing a preliminary indication of Site conditions and it should be noted that given the size and extent of this Site, additional investigation would be required to provide a detailed baseline assessment.

14.2.13. A Preliminary Ground Appraisal Report **(Volume 2, Appendix 14.2)** was completed in June 2022 by Geo-Environmental Services Ltd, ref GE20620/PGAR/JUN22**.** The report was subsequently updated to reflect the change in Site Boundary and exclusion of positions falling outside the Site Boundary in February 2026 by Geo-Environmental Services Ltd, ref GE20620/PGARv6/FEB26 (**Ref 14.3**).

14.2.14. An Agricultural Land Assessment **(Volume 2, Appendix 14.1)** was completed in June 2022 by Geo-Environmental Services Ltd, ref GE20620/ALA/JUN22**.** This was updated in February 2026 by Geo-Environmental Services Ltd, ref GE20620/ALAv7/FEB26 to reference the update to the Site Boundary plan (**Ref. 14.4**).

## ASSESSMENT METHODOLOGY

14.2.15. A Preliminary Risk Assessment (PRA) and Conceptual Site Model (CSM) was prepared in accordance with CLR11 (**Ref. 14.5**) (this has subsequently been replaced by Land contamination risk management (LCRM) (**Ref. 14.6**) on the 8th of October 2020 and updated June 2025) based on information obtained as part of the desk study. Possible risks associated with potential sources of contamination and sensitive receptors were identified and have been qualitatively assessed following a source-pathway-receptor ('Pollutant Linkage') approach in accordance with current UK protocols.

14.2.16. A risk of harm may only exist where a plausible pollutant linkage is present, and where the quantity or concentration of a contaminant is sufficient to pose harm. Under the statutory definition, "Contamination" may only strictly exist where contaminants pose a risk of harm to a receptor. The risk classification has been assessed in accordance with CIRIA C552 (Rudland et al., 2001) (**Ref. 14.7**). A summary of how the risks are derived, and their definitions are presented in **Tables 14-7** and **14-8**.

14.2.17. The preliminary risks have been assessed and classified in accordance with the procedures in CIRIA document 552 "Contaminated Land Risk Assessment, A Guide to Good Practice" and will form the baseline conditions. This document uses the following factors within the framework to determine the risk:

- Magnitude of potential consequence (severity) from exposure to contamination; and
- Magnitude of probability (likelihood) of exposure to contamination.

14.2.18. **Tables 14-5** and **14-6** provide the definitions in accordance with CIRIA 552 for the various consequence and probability classifications

**Table 14-5 - Classification of Consequences (CIRIA 552, 2001)**

| Classification | Definition |
|---|---|
| **Severe** | Short term (acute) risk to human health likely to result in "significant harm" as defined in the Environmental Protection Act, Part IIA. Short term risk of pollution of sensitive water resource (note: Water Resources Act contains no scope for considering significance of pollution). Catastrophic damage to buildings / property. A short-term risk to a particular ecosystem (note: the definition of ecological systems within the Draft Circular on Contaminated Land DETR, 2000) (**Ref 14.8)** |
| **Medium** | Chronic damage to Human Health ("significant harm" as defined in DETR 2000). Pollution of sensitive water resources. A significant change in a particular ecosystem, or organism forming part of such ecosystem. (Note: the definition of ecological systems within Draft Circular on Contaminated Land, DETR 2000) |
| **Mild** | Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures, and services ("significant harm" as defined in the Draft Circular on Contaminated Land, DETR 2000). Damage to sensitive buildings, services, or the environment. |
| **Minor** | Harm, although not necessarily significant, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to human health (easily prevented by means of such as personal protective clothing etc). Easily repairable effects of damage to buildings, structures, services. |

**Table 14-6- Classification of Probability (CIRIA 552, 2001)**

| Classification | Definition |
|---|---|
| **High Likelihood** | There is a pollution linkage and an event that either appears very likely in the short-term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution |
| **Likely** | There is a pollution risk, and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term. |
| **Low Likelihood** | There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such an event would take place and is less likely in the shorter term. |
| **Unlikely** | There is a pollution linkage, but circumstances are such that it is improbable that an event would occur even in the very long term. |

14.2.19. The classifications for consequences and probability can be combined to price a risk category ranging from "very low risk" to "very high risk", detailed in **Table 14-7**.

**Table 14-7- Comparison of Consequence against Probability**

| | | Consequence | | | |
|---|---|---|---|---|---|
| **Probability** | | **Severe** | **Medium** | **Mild** | **Minor** |
| | **High Likelihood** | Very High Risk | High Risk | Moderate Risk | Moderate to Low Risk |
| | **Likely** | High Risk | Moderate Risk | Moderate to Low Risk | Low Risk |
| | **Low Likelihood** | Moderate Risk | Moderate to Low Risk | Low Risk | Very Low Risk |
| | **Unlikely** | Moderate to Low Risk | Low Risk | Very Low Risk | Very Low Risk |

14.2.20. The possible actions for the various risk descriptors are given in **Table 14-8** below:

**Table 14-8- Description of the Classified Risks and Likely Action Required**

| Risk Descriptor | Definition |
|---|---|
| Very High Risk | There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR there is evidence that severe harm to the designated receptor is currently happening. The risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required. |
| High Risk | Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) and remediation works may be necessary in the short term and are likely over longer term. |
| Moderate Risk | It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk, and to determine the potential liability. Some remedial works may be required in the longer term. |
| Low Risk | It is possible that harm could arise to a designated receptor for an identified hazard, but it is likely that this harm, if realised, would at worst be normally mild. |
| Very Low Risk | There is a low possibility that harm could arise to a receptor. In the event of such harm being realised, it is not likely to be severe. |

## SIGNIFICANCE CRITERIA

14.2.21. The significance level attributed to each effect has been assessed based on the sensitivity / value of the affected receptor(s) and the magnitude of change arising from the Proposed Development, as well as a number of other factors that are outlined in more detail in **Volume 1, Chapter 5: Approach to EIA**. The sensitivity of the affected receptor is assessed on a scale of high, medium, low and negligible, and the magnitude of change is assessed on a scale of large, medium, small, negligible and no change, as set out in **Volume 1, Chapter 5: Approach to EIA**.

14.2.22. **Table 14-9** provides a comparison between the risk descriptors derived using the C552 framework and the significance criteria to be used in the ES:

**Table 14-9- Description of the Classified Risks and Likely Action Required**

| Risk Descriptor | Significance Criteria for Environmental Statement |
|---|---|
| Very high or high risks remaining on-site | Major Adverse |
| Moderate risks remaining on-site | Moderate Adverse |
| Low risks remaining on-site | Minor Adverse |
| Very low risks remaining on-site / removal of very low risks | Negligible |
| Removal of low risks | Minor Beneficial |
| Removal of moderate risks | Moderate Beneficial |
| Removal of very high or high risks | Major Beneficial |

## EFFECT SIGNIFICANCE

14.2.23. The following terms have been used to define the significance of the effects identified and apply to both beneficial and adverse effects:

- **Major effect**: where the Proposed Development could be expected to have a substantial improvement or deterioration on receptors;
- **Moderate effect**: where the Proposed Development could be expected to have a noticeable improvement or deterioration on receptors;
- **Minor effect**: where the Proposed Development could be expected to result in a perceptible improvement or deterioration on receptors; and
- **Negligible**: where no discernible improvement or deterioration is expected as a result of the Proposed Development on receptors, including instances where no change is confirmed.

14.2.24. As set out in **Volume 1, Chapter 5: Approach to EIA**, effects that are classified as **moderate or above** are considered to be **significant**. Effects classified as below **moderate** are considered to be **not significant**.

## 14.3. LEGISLATIVE FRAMEWORK, POLICY AND GUIDANCE

### LEGISLATIVE FRAMEWORK

14.3.1. The applicable legislative framework is summarised as follows:

- Part IIA of the Environmental Protection Act 1990 (EPA 1990) & Contaminated Land Statutory Guidance (EPA 2012);
- The Environment Act 1995 (Section 57) and 2021;
- The Contaminated Land (England) Regulations 2000 & 2006; and
- The Town and Country Planning Act 1990.

### POLICY

14.3.2. The key standards and guidance for dealing with the risks to human health, controlled water and the environment include.

- Land Contamination Risk Management (LCRM) Environment Agency updated June 2025.
- Model Procedures for the Management of Contaminated Land, CLR11, DEFRA and Environment Agency 2004 (withdrawn);
- BS10175:2011+A1:2017 - Investigation of Potentially Contaminated Sites - Code of Practice, BSI 2013;
- BS5930: 2015+A1:2020 - Code of Practice for Site Investigations, BSI 2020;
- EN ISO 14688 Geotechnical Investigation and Testing Part 1-2002 and Part 2-2004;
- BS1377: 1990 - Soils for Civil Engineering Purposes, BSI1990;
- NHBC Standards Chapter 4.1 Land Quality - Managing Ground Conditions. • NHBC Standards Chapter 4.2 Building Near Trees;
- CIRIA C665 – Assessing risks posed by hazardous ground gases to buildings (2007);
- NHBC Report NF94 – Hazardous ground gas - an essential guide for housebuilders (April 2023);
- BS8485:2015+A1:2019 Code of practice for the characterisation and remediation from ground gas in affected developments;
- BRE Special Digest 1 (SD1:2005), BRE Bookshop (2005);
- MAFF (1988) Agricultural Land Classification of England and Wales;
- Building Regulations (2010) updated October 2025;
- Horsham District Planning Framework (excluding South Downs National Park) (November 2015) (“the Local Plan” or “HDPF”);
- Southwater Neighbourhood Development Plan (June 2021) (“the Neighbourhood Plan” or “SNDP”); and
- Horsham District Local Plan 2023-2040 (‘the emerging Local Plan’).

14.3.3. In addition, this chapter has been prepared in accordance with the Government’s National Planning Practice Framework, updated February 2025 (**Ref. 14.9**).

### GUIDANCE

14.3.4. The following guidance documents have been used during the preparation of this chapter:

- Model Procedures for the Management of Contaminated Land, CLR11, DEFRA and Environment Agency 2004 (withdrawn). (**Ref. 14.5**);
- Land Contamination Risk Management (LCRM) Environment Agency updated June 2025 (**Ref. 14.6**); and

- CLR 8: Potential Contaminants for the Assessment of Land Contamination (2002).

## 14.4. BASELINE CONDITIONS

14.4.1. The majority of the Site is covered by a patchwork of agricultural fields, the agricultural land has been assessed as generally having an agricultural land classification of not better than grade 3b in the Site with the southern extent of land in proximity to the railway station having an agricultural land classification of grade 4. Numerous semi-mature and mature trees are present on-site, predominantly contained within Smith's Copse, located in the east of the Site, Courtland Wood in the centre of Site and additional woodland in the north of the Site, immediately south of the A24. Many mature trees were also observed within the hedgerows that separated the fields from one another. Filled ground was evident in the north of the Site. The farmyard to the south of the dairy had also been levelled, with the southeastern corner built up by approximately 3m in respect to the surrounding field and had a c.1:1 batter.

### GEOLOGY

14.4.2. British Geological Survey geological mapping indicated the geology of the Site to comprise the bedrock of the Horsham Stone Member (Sandstone) and Weald Clay Formation (Mudstone). This sequence was confirmed by the intrusive investigations.

- The Horsham Stone Member comprises sandstone, calcareous, generally fine-grained, micaceous, locally well laminated, pale grey to greenish / olive grey. Contains clayey partings and lignite fragments and rootlet traces. Frequently shows internal slumping and deformation.
- The Weald Clay Formation comprises dark grey thinly bedded mudstones (shales) and mudstones with subordinate siltstones, fine- to medium-grained sandstones, including calcareous sandstone, shelly limestones and clay ironstones.

### HYDROGEOLOGY

14.4.3. With reference to information provided by the Environment Agency, the Horsham Stone Member is classified as a Secondary 'A' Aquifer. The Weald Clay Formation, present in the north and south of the Main Site and in the southeast of the North Site is shown as unproductive strata.

- Secondary 'A' Aquifers are classified as permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers; and
- Unproductive strata are rock layers of drift deposits with low permeability that have negligible significance for water supply or river base flow.

14.4.4. In addition, both the North and Main Sites were indicated to be outside of any source protection zones with regards to the protection of groundwater for potable supply.

14.4.5. No groundwater abstraction licence was identified within a 500m radius of the North and Main Sites.

## PREVIOUS LAND USE

14.4.6. Historic mapping has shown the Site has remained largely unaltered from the earliest available mapping. The Site comprises part of a field network, with irregular shaped fields bordered with hedgerows and non-coniferous trees. Several stands of woodland remained present on-site from the first available mapping, namely Smith's Copse, Courtland Wood and Two Mile Ash Gill. A drainage system running across the northern portion of the Site was first shown in 1976-1977, drainage systems running north south in the south of the Site were first shown in 1981.

14.4.7. A railway line ran east west across the southern portion of the Site, south of Courtland Wood and Great House Farm. The track was shown to be partly on an embankment and within a cutting. The railway was shown present on-site from the earliest available map, functional until 1976-1978 where it was labelled as dismantled. In 2006 the route of the railway was labelled as a path. Several buildings were present on-site, agricultural buildings were shown to the east of Greathouse Farm, with the addition of two residential properties, Bycroft and Walnut Cottage. A Dairy was first shown in the north-west of Site in 1992 and comprised an access road from Two Mile Ash Road, a levelled yard and a rectangular dairy building. Mapping from 2015 showed the expansion of the Dairy with an additional three agricultural units.

14.4.8. Historic mapping has shown the Site has remained largely unaltered from the earliest available mapping. The Site comprised an open field with a number of footpaths dissecting the southern portion of Site. An unnamed pit c.700m$^2$ in area was present in the south-west of the Site until 1879, when it was no longer shown. A portion of road was present in the south-west of Site, leading onto Station Road.

## POTENTIAL SOURCES OF CONTAMINATION

**Main Site Area – "Main Site"**

14.4.9. There are several on-site sources of potential contamination. In relation to the Site's agricultural use, due to the use of fertilisers, pesticides and herbicides.

14.4.10. The presence of a railway line is also a potential source of contamination. Cuttings and embankments have the potential to be infilled in part with unknown materials.

14.4.11. The presence of buildings on-site, prior to the year 2000, indicates asbestos containing materials (ACM) could have been or be present within the buildings fabric and may have been transferred to surrounding soils following subsequent phases of redevelopment.

14.4.12. Site levels were raised in two locations on-site. The Dairy, present in the north-west of the Site, was constructed on raised and levelled ground. The land immediately south of the A24 was re-profiled with the construction of the road. The material used as fill to raise levels is unknown in both locations.

14.4.13. Several tanks were identified within the desk study information; however, the location of the tanks was not shown on historical mapping. Two tanks were identified to the rear of the barn in the west of the Site during the site walkover. Several pits and ground workings were noted and subsequently backfilled within unknown material.

**Area Adjacent to Existing Railway Station – "North Site"**

14.4.14. All the sources of potential contamination on this area have been scoped out due to the proposed end use of this area of the Site as a car park.

14.4.15. The primary source of on-site contamination is considered the backfilled pit in the south-west of the Site. The material used as backfill is unknown.

14.4.16. As the Site may have been used for agriculture, the presence of fertiliser, pesticides and herbicides forms the second source of potential on-site contamination.

14.4.17. Historical and current off-site activities may have resulted in contamination of the subject site. The presence of railway infrastructure, railway lines, goods sheds and sidings to the west of the Site is a potential source.

14.4.18. A tank was located c.15m north of Site. The contents, size and state of repair are unknown. The contents may have migrated onto the Site by sorption through the soil layer or transported within impacted groundwater.

14.4.19. The historic presence of a Laundry immediately south of the Site is another potential source of contamination due to the of soap and detergents used in the process, though this is unlikely given the distance to the feature and presence of relatively impermeable natural geology (Weald Clay).

### FUTURE BASELINE

14.4.20. The climate in Sussex is anticipated to consist of hotter, drier summers with more extreme heatwaves and colder, wetter winters with more intense rainfall. There is also a potential for additional developments and higher density to be built adjacent to the development. These could interact with shallow groundwater levels or shrinkable soils potentially causing damage to housing and infrastructure during the operational phase of the development. It is recommended that additional intrusive investigation and water sampling should be undertaken to a create a more detailed baseline of the geotechnical and environmental conditions on the Site to be able to assess whether these factors could impact the Proposed Development. The removal of any historic tanks, landfill and made ground will remove sources which could impact future receptors.

## 14.5. SENSITIVE RECEPTORS

14.5.1. Potential receptors associated with the Site and its development are summarised in **Table 14-10** below:

**Table 14-10- Possible Receptors of Contamination**

| Receptor | Description | Comments |
|---|---|---|
| Site Workers | Persons involved in construction and future maintenance of the Proposed Development. | Ground Workers could become exposed during site clearance, construction, and maintenance. |
| End Users | Residents / occupants of the Proposed Development. | The Proposed Development is likely to include areas of private garden and managed communal soft landscaping. |
| Soft Landscaping | Possible areas of planting including lawns, shrubs, trees, etc. | Planting is anticipated in private gardens and communal soft landscaping. |

| Receptor | Description | Comments |
|---|---|---|
| Built Environment (including water supply pipes and buildings and infrastructure. | Buried concrete for foundations and plastics for potable water supply pipes may be laid in contact with contaminated soils. | Aggressive ground conditions and depths of Made Ground may be present within the soils beneath the Site. |
| Adjacent Land Users | Sensitive land uses identified within the immediate vicinity. | Adjacent land uses surrounding the Site comprises residential, commercial, and industrial uses. |
| Groundwater | Controlled Waters contained within the aquifer(s) beneath the site. | The whole Site overlies a Secondary 'A' Aquifer. The Site is not situated within an SPZ. |
| Surface Water | Controlled Waters within lakes, rivers, and ponds, etc., or coastal waters. | Surface water was identified on-site in the form of small ponds, drainage ditches and streams.<br>No surface water features are present on the part of the Site adjacent to Christ's Hospital Station. The closest water feature to the Site is a narrow stream running south of Sparrow Copse. |

14.5.2. All key sensitive receptor locations in relation to ground conditions and land contamination have been identified in the Preliminary Risk Assessment (PRA) and Conceptual Site Model (CSM) undertaken for the Site and presented in the Preliminary Ground Investigation Report **(Volume 2, Appendix 14.2)** undertaken for the Site. The assessment distinguishes between construction and operational phase receptors to reflect the differing nature, duration and exposure pathways associated with each phase of the Proposed Development.

14.5.3. During the construction phase, receptors are typically temporary and occupational in nature, including site workers, adjacent land users and controlled waters, with potential effects arising from intrusive ground works, material handling, dust generation and the temporary creation of contaminant pathways.

14.5.4. In contrast, operational phase receptors are long-term and generally more sensitive, comprising future site users, residents, landscaped areas, the built environment and underlying groundwater and surface water bodies. Operational phase effects are associated with residual contamination, ground gas risks, soil suitability and interactions between ground conditions and permanent structures or land use.

14.5.5. The separation of receptors by phase ensures that short-term, reversible construction effects and long-term, permanent operational risks are assessed appropriately, proportionately and in accordance with the source–pathway–receptor framework and relevant UK guidance.

## 14.6. ASSESSMENT OF POTENTIAL EFFECTS, MITIGATION AND RESIDUAL EFFECTS

### CONSTRUCTION PHASE

14.6.1. It is considered that the overall risk to receptors from potential contamination on the Main Site and North Site is 'low' albeit with specific potential pollutant linkages being assigned a moderate risk rating.

**Table 14-11 – Assessment of Potential Effects, Additional Mitigation, Residual Effects and Monitoring During Construction**

| | |
|---|---|
| **Sensitive receptor** | Site Workers |
| **Potential effects** | **Low Risk**<br><br>During the construction phase of the Proposed Development construction workers may be exposed through dermal contact, ingestion and inhalation pathways. This effect is considered to be **Minor Adverse (Not Significant)**. |
| **Additional mitigation** | Construction workers on-site will require adequate Personal Protective Equipment (PPE). This is likely to comprise standard PPE as a minimum, which will include hand protection and safety footwear to mitigate the effects of ground contamination.<br><br>However, the Main Contractor should undertake further risk assessments and additional PPE such as dust masks and eye protection and / or respiratory protective equipment (RPE) may be required for certain tasks. In addition, the risk assessments should be used to develop and formalise safe systems of work.<br><br>Whilst this is considered a very low risk on this Site, caution should be taken during construction with regards to asbestos within any pockets of Made Ground and an 'Asbestos Management Plan' will be written by an accredited asbestos specialist, to mitigate the risks to construction and maintenance workers. Hand scavenging of asbestos fragments is unlikely to be feasible due to its sporadic and dispersed nature.<br><br>A Construction Environmental Management Plan (CEMP) will be drawn up to cover the construction phase. The CEMP will consider all relevant areas of environmental management during the construction phase. |
| **Residual effects and monitoring** | A Discovery Strategy should be employed during construction. Should previously undiscovered contamination or unforeseen ground conditions be encountered during construction by the ground worker's, this should be reported to the Site manager immediately in order that the consultant is notified. Where deemed necessary, the consultant shall attend the Site to inspect the unexpected soil conditions and provide recommendations on the further actions required, if any. Where necessary the regulatory authority should be informed. Post any additional investigation or laboratory testing the results and any proposed remedial measures should be reported to the regulatory authority for consent, before proceeding or implementing the remedial measures. Implementation of these mitigation measures would reduce the risk to be **Negligible (Not Significant)**. |

| | |
|---|---|
| **Sensitive receptor** | Adjacent Land Users |
| **Potential effects** | **Low Risk**<br><br>Adjacent site users are unlikely to come into contact with any affected soils on site.<br><br>Dust and soils generated, particularly during the early phases of the construction works could potentially migrate off-site. Such dust and soils, without any mitigation measures, could potentially include substances deleterious to human health.<br><br>Contaminants of concern above the respective thresholds for the proposed end use have not been identified to date, however further detailed investigation is required.<br><br>The effect is considered to be **Minor Adverse (Not significant)** |
| **Additional mitigation** | A Construction Environmental Management Plan (CEMP) will be drawn up to cover the construction phase. The CEMP will consider all relevant areas of environmental management during the construction phase.<br><br>As part of these measures should be employed to mitigate the generation of dust such as damping down on-site and wheel wash or road sweepers to limit the tracking of dust onto neighbouring roads.<br><br>The height of soil stockpiles should be controlled to minimise wind erosion.<br><br>Contaminated material and any other material to be removed off-site to be disposed of in accordance with the Environmental Protection Act section 34 and the Environmental Protection (Duty of Care) Regulations 1991. All off-site material movements should be undertaken in self-sheeting wagons with sheeting completed prior to leaving the Site |
| **Residual effects and monitoring** | There is likely to be no negative residual effects after additional mitigation. Implementation of these measures would maintain the risk as **Negligible (Not significant).** |

| | |
|---|---|
| **Sensitive receptor** | Groundwater |
| **Potential effects** | **Low Risk**<br><br>Contamination pathways could be created during the construction phase causing pollutants to impact the aquifer.<br><br>The Horsham Stone Member beneath the Site is classified as Secondary A aquifer and would be a receptor. However, the Weald Clay Formation which is beneath the majority of the Site is classified as unproductive strata and would not be a receptor. This effect is considered to be **Minor Adverse (Not Significant)**. |

| | |
|---|---|
| **Additional mitigation** | A Construction Environmental Management Plan (CEMP) will be drawn up to cover the construction phase. The CEMP will consider all relevant areas of environmental management during the construction phase, which would include bunding of fuel storage areas.<br><br>As part of this a borehole management scheme, to manage the potential pathways that would be created, should be produced. |
| **Residual effects and monitoring** | A baseline will be created and compared to before, during and post construction.<br><br>There is a small risk of spillages on-site impacting groundwater during the construction phase. As part of any further investigation strategy, ground water monitoring wells should be installed on the Site. These should be undertaken in the pre-construction phase, and chemical samples obtained to assess and provide a baseline of the water quality, and these should be monitored periodically throughout the construction phase and on completion of the Development. Implementation of these measures (a discovery strategy) would reduce the effect to be **Negligible (Not significant).** |

| | |
|---|---|
| **Sensitive receptor** | Surface Water |
| **Potential effects** | **Moderate Risk**<br><br>Surface water was identified on-site in the form of small ponds, drainage ditches and streams. Spillages on-site and the production of silt during ground works could migrate to the surface water that was identified across the Site. This effect is considered to be **Moderate Adverse (Not Significant)**.<br><br>No surface water features are present on the part of the Site adjacent to Christ's Hospital Station. The closest water feature to the Site is a narrow stream running south of Sparrow Copse. |
| **Additional mitigation** | A Construction Environmental Management Plan (CEMP) will be drawn up to cover the construction phase. The CEMP will consider all relevant areas of environmental management during the construction phase, which would include bunding of fuel storage areas, and could include silt protection barriers.<br><br>As part of this a surface water management strategy will be created to manage Site run-off. |
| **Residual effects and monitoring** | There is a small risk of spillages on-site impacting surface water during the construction phase. As part of any further investigation strategy, samples from surface water should be obtained from Site. These should be undertaken in the pre-construction phase, and chemical samples obtained to assess and provide a baseline of the water quality, and these should be monitored periodically throughout the construction phase and on completion of the Development. Implementation of these mitigation measures would reduce the effect to be **Negligible (Not significant).** |

## OPERATIONAL PHASE

14.6.2. During the operation phase all pathways to any receptors must be severed.

**Table 14-12 – Assessment of Potential Effects, Additional Mitigation, Residual Effects and Monitoring During Operation**

| | |
|---|---|
| **Sensitive receptor** | End Users |
| **Potential effects** | **Low Risk**<br><br>Future users (future residents / occupiers, users of open spaces, school children (primary and secondary), allotment users) are likely to come into contact with soils via direct contact within gardens and soft landscaping or tracked back into the building. Suitable topsoil may or may not be currently present at certain locations and any imported soils must be of suitable chemical and physical quality for the proposed end use. There is a potential for end-users to be impacted by ground gases if these are present on the Site (subject to further assessment). This effect is considered to be **Minor Adverse (not significant)**. |
| **Additional mitigation** | Additional ground investigation should be undertaken to assess the ground conditions on the Site and ground gas monitoring undertaken to fully characterise the site in terms of risk from ground gases and contamination (if any). Following this investigation, remediation may be required, which could include a cover system, removal of made ground soils, ground gas protection measures or the appropriate selection of water pipes. |
| **Residual effects and monitoring** | Post construction no residual effects should remain. Verification reporting should be completed to verify all remedial works completed. This effect is considered to be **Minor Beneficial (Not significant).** |

| | |
|---|---|
| **Sensitive receptor** | Soft Landscaping |
| **Potential effects** | **Moderate to Low** Risk<br><br>Soft landscaping is likely to be included within the Proposed Development. Residents and other users may come into direct contact with soils in gardens, play areas and landscaped open space. If soils are unsuitable for the proposed end use, there is potential for adverse effects on human health.<br><br>Poor-quality, contaminated or chemically imbalanced soils may affect planting success, restrict intended land use (e.g. vegetable growing), or require long-term management.<br><br>If made ground or historic contamination is not adequately remediated, contaminants could remain beneath or within landscaped soils, posing a long-term risk to users and vegetation.<br><br>Elevated contaminants, inappropriate soil chemistry, or poor physical properties (e.g. compaction, drainage) can result in poor plant growth or failure of landscaping schemes.<br><br>Ground gases may migrate beneath soft landscaping and, if not adequately assessed and mitigated, could present a risk to adjacent buildings or users.<br><br>**Minor Adverse (Not Significant)**. |

| | |
|---|---|
| **Additional mitigation** | Any imported soils must be of suitable chemical and physical quality for the proposed end use. Remediation maybe required, which could include a cover system or removal of made ground soils. |
| **Residual effects and monitoring** | Post construction no residual effects should remain. Verification reporting should be completed to verify all remedial works completed. **Minor Beneficial (Not Significant)**. |

| | |
|---|---|
| **Sensitive receptor** | Built Environment |
| **Potential effects** | **Low Risk**<br><br>There could be a risk of damage to foundations, water supply pipes and infrastructure as the Weald Clay Formation may contain elevated concentrations of sulphate, pyrite, and gypsum. This effect is considered to be **Minor Adverse (Not Significant)**. |
| **Additional mitigation** | Additional ground investigation should be undertaken to provide a more comprehensive coverage of the Site to allow designers to assess whether the concrete class for foundations may need to be sulphate resisting, barrier pipe required for water utilities etc. |
| **Residual effects and monitoring** | There is likely to be no change to the effects after additional mitigation. Implementation of these measures would reduce the risk to be **Negligible (Not significant)**. |

| | |
|---|---|
| **Sensitive receptor** | Groundwater |
| **Potential effects** | **Low Risk**<br><br>If left intact there is a risk of leaching of contaminants from tanks / historic landfill / made ground into groundwater. The Horsham Stone Member beneath the Site is classified as Secondary A aquifer. However, the Weald Clay Formation which is beneath the majority of the Site is classified as unproductive strata. This effect is considered to be **Minor Adverse (Not Significant)**. |
| **Additional mitigation** | Potential sources of contamination should be remediated during the construction phase to remove the long-term risk. |
| **Residual effects and monitoring** | As part of any further investigation strategy, ground water monitoring wells should be installed on the Site. These should be undertaken in the pre-construction phase, and chemical samples obtained to assess and provide a baseline of the water quality, and these should be monitored periodically throughout the construction phase and on completion of the Development. Implementation of these measures (a discovery strategy) would reduce the effect to be **Negligible (Not significant).** |

| | |
|---|---|
| **Sensitive receptor** | Surface Water |

| | |
|---|---|
| **Potential effects** | **Moderate Risk**<br><br>If left intact there is a risk of leaching of contaminants from tanks / historic landfill / made ground into surface water, which was identified on-site in the form of small ponds, drainage ditches and streams. This effect is considered to be **Moderate Adverse (Not Significant)**.<br><br>No surface water features are present on the part of the Site adjacent to Christ's Hospital Station. The closest water feature to the Site is a narrow stream running south of Sparrow Copse. |
| **Additional mitigation** | Potential sources of contamination should be remediated during the construction phase to remove the long-term risk. |
| **Residual effects and monitoring** | As part of any further investigation strategy, water quality should be assessed post remediation. These should be undertaken in the pre-construction phase, and chemical samples obtained to assess and provide a baseline of the water quality, and these should be monitored periodically throughout the construction phase and on completion of the Development. Implementation of these measures (a discovery strategy) would reduce the effect to be **Negligible (Not significant).** |

| | |
|---|---|
| **Sensitive receptor** | Agricultural Land |
| **Potential effects** | **Minor Risk**<br><br>As part of the construction phase, agricultural land will be permanently removed from agricultural use. The land will be sealed by buildings, roads, gardens and infrastructure and cannot function as an agricultural resource for the lifetime of the development. However an **Agricultural Land Assessment (Volume 2, Appendix 14.1)** has graded the Site as Grade 3B, not best and most versatile. This effect is considered to be **Minor Adverse (Not Significant)**. |
| **Additional mitigation** | None. |
| **Residual effects and monitoring** | There will be loss of agricultural land, but this is land which would mostly be classified as not better than Grade 3b and is therefore not considered as best and most versatile land. **Negligible (Not significant).** |

## 14.7. FUTURE BASELINE

14.7.1. The Assessment Methodology for ground conditions and contamination would not change when considered against a future baseline. This is because the methodology is based on a standard source–pathway–receptor framework, qualitative risk assessment, and established UK guidance (including LCRM and CIRIA C552), which are independent of short- or medium-term changes in baseline conditions.

14.7.2. While future changes such as climate variability, adjacent development or evolving land use may influence the magnitude or likelihood of specific pollutant linkages (for example through altered groundwater levels or soil moisture conditions), they do not alter the fundamental approach used to identify, assess and classify risks. Any future baseline changes would therefore be accounted for through updated baseline data inputs, further intrusive investigation and monitoring, rather than through a change in Assessment Methodology. This ensures that the assessment remains robust, proportionate and capable of identifying likely significant effects both under current conditions and within a reasonable future baseline scenario.

## 14.8. OPPORTUNITIES FOR ENVIRONMENTAL ENHANCEMENT

14.8.1. There may be opportunities to clean up contamination in parts of the Site, but a more detailed intrusive ground investigation would be required to ascertain the levels of contamination and therefore the amount of environmental enhancement that could be gained.

## 14.9. DIFFICULTIES AND UNCERTAINTIES

14.9.1. The following difficulties and uncertainties have been identified:

- The information collected to date has been desk based in the main, on initial baseline investigation to provide a preliminary indication of conditions. These have been used to provide an interpretation of the geotechnical and environmental conditions pertaining to the Site. The recommendations and opinions expressed are based purely on the data obtained. The baseline investigation is required to be supplemented with detailed investigation; and
- A detailed intrusive investigation should be carried out in order to clarify the geotechnical and geo-environmental issues pertaining to redevelopment of the Site.

## 14.10. SUMMARY

14.10.1. **Table 14-13** provides a summary of the findings of the assessment.

**Table 14-13 - Summary of Ground Conditions and Contamination Effects**

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Construction Phase** | | | | | |
| Site Workers | Exposure through dermal contact, ingestion and inhalation pathways | **Minor Adverse**<br>T / D / ST | Construction activities will be managed through:<br>▪ the use of appropriate PPE;<br>▪ task-specific risk assessments;<br>▪ safe systems of work; and<br>▪ Asbestos Management Plan for management of potential asbestos identified in Made Ground, prepared by an accredited specialist. | **Negligible**<br>T / I / ST | A Discovery Strategy will be in place during construction to address any unforeseen contamination or ground conditions, including regulatory consultation where required. |
| Adjacent Land Users | Adjacent land users are unlikely to be directly affected; potential off-site dust migration during construction represents a low risk, with no exceedances identified to date, subject to further investigation. | **Minor Adverse**<br>T / I / ST | Construction activities will be managed through:<br>▪ A Construction Environmental Management Plan (CEMP) will be implemented for the construction phase;<br>▪ Dust generation will be controlled through measures such as damping down, wheel washing and road sweeping;<br>▪ Soil stockpile heights will be managed to minimise wind-blown dust; and | **Negligible**<br>T / I / ST | No negative residual effects after additional mitigation. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | | | ▪ Any contaminated or surplus material will be disposed of off-site in accordance with Duty of Care requirements. | | |
| Groundwater | Contamination pathways could be created during the construction phase causing pollutants to impact the aquifer.<br><br>The Horsham Stone Member beneath the Site is classified as Secondary A aquifer and would be a receptor. | **Minor Adverse**<br>T / I / ST | A Construction Environmental Management Plan (CEMP) will be implemented, including fuel storage controls and a borehole management scheme to manage potential contamination pathways during construction. | **Negligible**<br>T / I / ST | A baseline will be created and compared to before, during and post construction. |
| Surface Water | Surface water was identified on-site in the form of small ponds, drainage ditches and streams.<br><br>No surface water features are present on the part of the Site adjacent to Christ's Hospital Station. The closest water feature to the Site is a narrow stream running south of Sparrow Copse. | **Moderate Adverse**<br>T / I / ST | Surface water run-off will need to be managed during construction. | **Negligible**<br>T / I / ST | A baseline will be created and compared to before, during and post construction. |
| **Operational Phase** | | | | | |
| End Users | Future users may come into contact with soils within gardens and soft landscaping, and potentially be affected by ground gases if present; therefore, soil suitability and ground | **Minor Adverse**<br>P / D / LT | Further investigation and ground gas monitoring will inform any required remediation,<br><br>▪ Soil cover systems; | **Minor Beneficial**<br>P / I / LT | No residual effects are anticipated post-construction, subject to verification reporting confirming |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | gas risks require consideration for the proposed end use. | | ▪ Removal of made ground, ground gas protection measures or; and<br>▪ Appropriate service pipe selection. | | completion of all remedial works. |
| Soft Landscaping | Soft landscaping will form part of the development, with users potentially coming into contact with soils; if soils are unsuitable or residual contamination remains, this could affect human health, planting success and intended land use, with ground gas migration also presenting a potential risk if not adequately mitigated. | **Minor Adverse**<br>P / D / LT | Any imported soils must be of suitable chemical and physical quality for the proposed end use.<br>Further investigation and ground gas monitoring will inform any required remediation,<br>▪ Soil cover systems; and<br>▪ Removal of made ground and ground gas protection measures. | **Minor Beneficial**<br>P / I / LT | No residual effects are anticipated post-construction, subject to verification reporting confirming completion of all remedial works. |
| Built Environment | There could be a risk of damage to foundations, water supply pipes and infrastructure as the Weald Clay Formation may contain elevated concentrations of sulphate, pyrite, and gypsum. | **Minor Adverse**<br>P / D / LT | Further ground investigation will inform foundation design requirements, including the potential need for sulphate-resistant concrete and protective water service pipes | **Negligible**<br>P / D / LT | No residual effects are anticipated post-construction, subject to verification reporting confirming completion of all remedial works. |
| Groundwater | If left unremediated, contaminants from tanks, historic landfill or made ground could leach into groundwater within the underlying Secondary A | **Minor Adverse**<br>T / I / LT | Potential sources of contamination should be remediated during the construction phase to remove the long-term risk. | **Negligible**<br>T / I / LT | Groundwater monitoring wells will be installed pre-construction to establish baseline water quality, with periodic |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation / Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | aquifer in parts of the Site where the underlying geology is Horsham Stone. | | | | monitoring during construction and post-completion |
| Surface Water | If left unremediated, contaminants from tanks, historic landfill or made ground could leach into on-site surface water features, including ponds, drainage ditches and streams. | **Moderate Adverse** T / I / MT | Potential sources of contamination should be remediated during the construction phase to remove the long-term risk. | **Negligible** T / I / MT | Surface water quality will be monitored to establish a pre-construction baseline, with periodic monitoring during construction and post-completion following remediation. |
| Agricultural Land | Agricultural land will be taken out of production. This land has been graded as not best and most versatile – Grade 3b | **Moderate Adverse** P / D / LT | None | **Negligible** P / D / LT | None. This land has been assessed as Grade 3b and is therefore not considered as best and most versatile land. |

Key to table:

**P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable**

## 14.11. REFERENCES


- **Reference 14.1**: Geo-Environmental Services Limited (2022, updated 2026) Preliminary Ground Appraisal Report GE20620/PGAR/JUN22, updated GE20620/PGARv6/FEB26
- **Reference 14.2**: Geo-Environmental Services Limited (2022, updated 2026) Agricultural Land Assessment GE20620/ALA/JUN22, updated GE20620/ALAv7/FEB26.
- **Reference 14.3:** Horsham District Council (2022) Memorandum response on the consultation request for the Land North West of Southwater
- **Reference 14.4**: Environment Agency (2004) The model procedures for the Management of Land Contamination, CLR11 (now withdrawn)
- **Reference 14.5**: Environment Agency (2020) Land contamination risk management (LCRM), updated June 2025.
- **Reference 14.6**: D J Rudland, R M Lancefield and P N Mayell, 2001, CIRIA document 552 "Contaminated Land Risk Assessment, A Guide to Good Practice", CIRIA.
- **Reference 14.7**: DETR (2000) Draft Circular on Contaminated Land, HM Government.
- **Reference 14.8**: National Planning Policy Frameworks (NPPF), updated June 2025
- **Reference 14.9**: Natural England (2012) Developing farmland: regulations on land use, Planning applications for new buildings on agricultural land or change of use for existing farmland or buildings.
- **Reference 14.10**: Natural England (2012) Technical Information Note, TIN049, Agricultural Land Classification: protecting the best and most versatile agricultural land.
- **Reference 14.11**: MAFF (1988) Agricultural Land Classification of England and Wales.

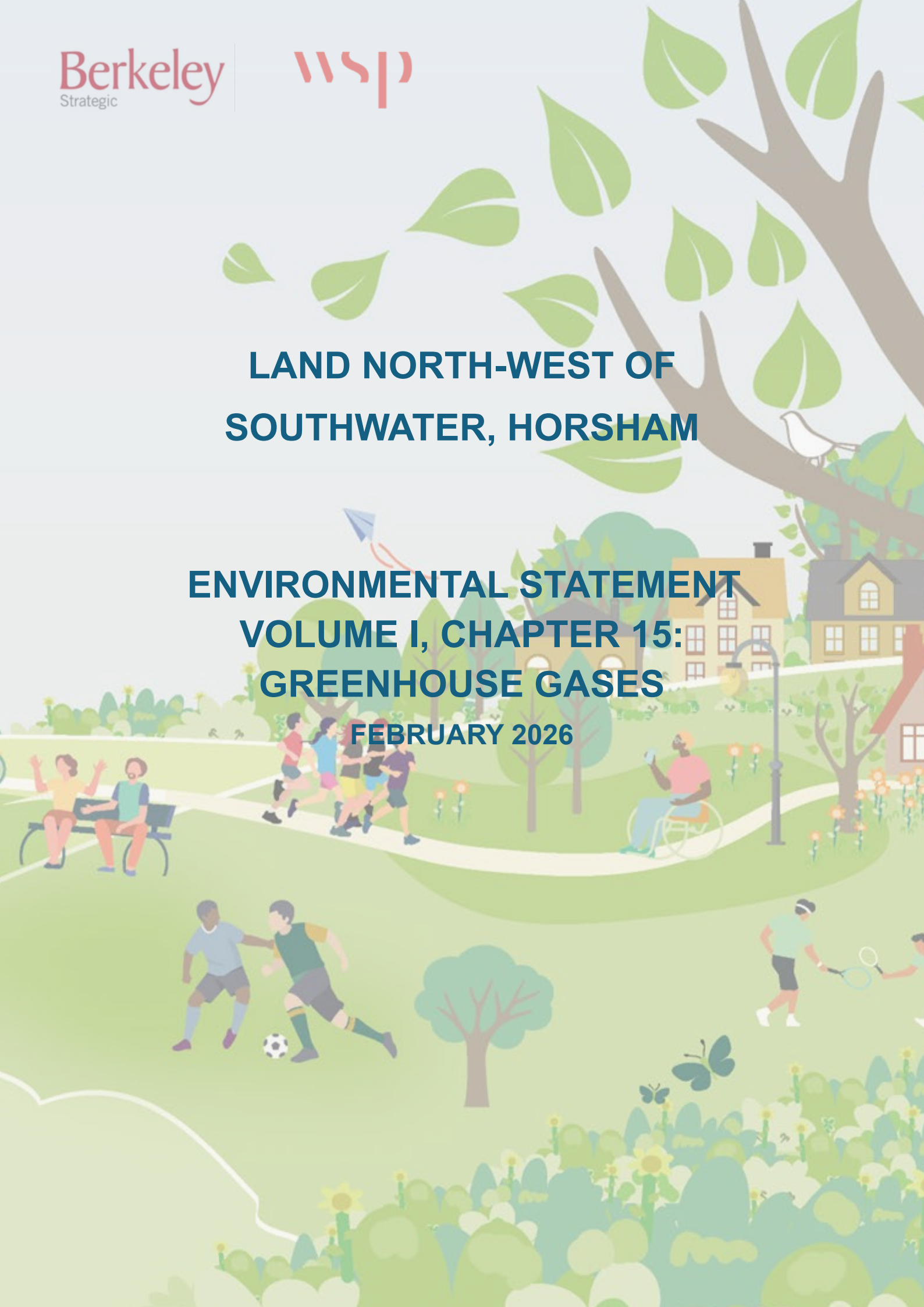
WSP House
70 Chancery Lane
London
WC2 1AF

**wsp.com**

# LAND NORTH-WEST OF SOUTHWATER, HORSHAM

# ENVIRONMENTAL STATEMENT VOLUME I, CHAPTER 15: GREENHOUSE GASES

**FEBRUARY 2026**



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# 15. GREENHOUSE GASES (GHG) ASSESSMENT

## 15.1. INTRODUCTION

15.1.1. This chapter reports the outcome of the assessment of likely significant effects arising from the Proposed Development upon climate via the assessment of Greenhouse Gas (GHG) emissions throughout the whole lifecycle of the Proposed Development.

15.1.2. The assessment of GHG emissions has established that the following additional mitigation measures are required:

- Whole life embodied carbon reduction measures including optimising material usage and use of low carbon materials, reducing construction waste; embedding end-of-life measure in the design phase should be explored in later design phases;
- Future ready[1] approach to benefit from future grid decarbonisation; and
- Embedding sustainable transport in the design; future-ready[1] approach to benefit from increasing future EV use.

15.1.3. The following residual effects have been identified:

- There is likely to be a direct and indirect, permanent, long-term **Minor adverse** residual effect on Global climate (**not significant**) due to whole life embodied carbon emissions;
- There is likely to be a direct, permanent, long-term **Minor adverse** residual effect on Global climate (**not significant**) due to operational carbon emissions due to energy and water use; and
- There is likely to be a direct and indirect, permanent, long-term **Minor adverse** residual effect on Global climate (**not significant**) due to operational transport emissions.

15.1.4. The following monitoring requirements have been identified:

- It is recommended that a whole life embodied carbon assessment and options appraisal is undertaken at the detailed design phase to monitor the performance of the Proposed Development against benchmarks by the client / design delivery team;
- Operational energy performance assessment; in-use monitoring; and.
- Prepare a Travel Plan and adhere to the measures proposed in it. Travel surveys would be carried out on a bi-annual basis, until one year post full occupation, to examine any change in modal splits, the effectiveness of the Travel Plan measures, and to ensure that the Travel Plan reflects the latest opportunities at the Site.

15.1.5. The remainder of this chapter describes the assessment methodology and the baseline conditions relevant to the assessment, which have been used to reach these conclusions, as well as a summary of the likely significant effects leading to the additional mitigation measures required to avoid, prevent, reduce or, if possible, offset any likely significant adverse effects, and the likely residual effects and any required monitoring after these measures have been employed.

[1] Future Ready is WSP's global innovation programme, designed to challenge and inspire our teams to create advice and designs that are ready for the future as well as today. The programme places WSP at the forefront of delivering a sustainable, resilient and prosperous society.

15.1.6. This chapter (and its associated figures and appendices) is intended to be read as part of the wider Environmental Statement (ES).

## 15.2. CONSULTATION, SCOPE, METHODOLOGY AND SIGNIFICANCE CRITERIA

### CONSULTATION UNDERTAKEN TO DATE

15.2.1. Other than the formal Environmental Impact Assessment (EIA) scoping process, no additional specific consultation has been undertaken with regards to the GHG assessment.

### SCOPE OF THE ASSESSMENT

15.2.2. The scope of this assessment has been established through an ongoing scoping process. Further information can be found in **Volume 1, Chapter 5: Approach to EIA**.

15.2.3. This section provides an update to the scope of the assessment and re-iterates the evidence base for scoping out elements following further iterative assessment.

15.2.4. The emissions sources, described as elements with their associated Lifecycle Stage during the Proposed Development's lifespan, have been identified using guidance from IEMA **(Ref 15.15)**. Professional judgement has been used to determine which sources to scope in and out of further assessment, as outlined in the scoping report and below.

### ELEMENTS SCOPED OUT OF THE ASSESSMENT

15.2.5. The elements shown in **Table 15-1** are not considered to give rise to likely significant effects as a result of the Proposed Development and have therefore not been considered within this assessment:

**Table 15-1 - Elements scoped out of the assessment**

| Element scoped out | Justification |
|---|---|
| Land use, land use change and forestry A5 | Emissions from the disposal of biomass are not expected to be large. |
| Land use, land use change and forestry B8 | The reduction in carbon sequestration due to the Proposed Development is not considered to be large. |
| Disposal of waste A5 | Emissions from the disposal of waste are unlikely to be large, due to a large proportion of construction waste being inert. |

### ELEMENTS SCOPED INTO THE ASSESSMENT

#### Construction Phase

15.2.6. The following elements are considered to have the potential to give rise to likely significant effects during construction of the Proposed Development and have therefore been considered within this assessment:

**Table 15-2 - Elements scoped in the assessment**

| Element scoped in | Justification |
|---|---|
| Product stage (manufacture and transport of raw materials to suppliers) A1-3 | Raw materials required for the Proposed Development will result in embodied emissions and have the potential to be large. |
| Transport of materials to site A4 | Construction phase emissions from fuel / energy consumption due to the delivery of material to the Site have the potential to be large. |
| Plant and equipment used during construction A5 | Fuel / energy consumption of plant and equipment used during construction would generate GHG emissions. |

**Operation Phase**

15.2.7. The following elements are considered to have the potential to give rise to likely significant effects during operation of the Proposed Development and have therefore been considered within this assessment:

**Table 15-3 - Elements scoped in the assessment**

| Element scoped in | Justification |
|---|---|
| In-use Emissions B1 | This is not considered to be a large emission source and thus was scoped out previously. However, it has now been scoped in since industry standard benchmarks are being used for calculations. |
| Replacement and refurbishment B2-5 | The replacement and refurbishment of the Proposed Development would release a potentially large magnitude of emissions. |
| Operational Energy Use B6 | In-use electricity emissions will be released on an annual basis due to the building use. |
| Operational Water Use B7 | Emissions due to annual potable water usage during the operation phase. |
| End-user emissions (regional traffic flows) – traffic B9/D | Changes to regional traffic flows are expected and this has the potential to result in a large change in GHG emissions. |
| Decommissioning process C1-C4 | Any emissions arising from decommissioning, stripping out, disassembly, deconstruction, and demolition operations as well as from transport, processing and disposal of materials at the end of life of the Proposed Development. |

15.2.8. It must be noted that lifecycle modules B1, and B2-B5 that were initially proposed to be scoped-out as per the scoping report, have now been scoped-into the assessment. This is because industry standard benchmarks for embodied carbon emissions that are being used as reference include emissions for modules B1, B2-B5.

15.2.9. The scope of the assessment is consistent with the framework for the quantification of GHG emissions presented in British Standard (BS) EN 15978:2011 '*Sustainability of construction works - Assessment of environmental performance of buildings - Calculation method*'. **(Ref 15.19)**

## EXTENT OF THE STUDY AREA

15.2.10. The GHG emissions assessment has not been restricted by geographical area but has instead included any increase or decrease in emissions as a result of the Proposed Development, wherever that may be. This includes:

- Construction emissions - from the Site footprint but also related to the transport of materials to and from the Site and their manufacture;
- Operational emissions - (increase or reduction) which result from the end-use of the Proposed Development and any shifts in transport modes/patterns which may occur. Such emissions include those for traffic using the Proposed Development as well as the surrounding regional road network to gain access; and
- Decommissioning process - Any emissions arising from decommissioning, stripping out, disassembly, deconstruction, and demolition operations as well as from transport, processing, and disposal of materials at the end of life of the Proposed Development.

15.2.11. With regard to the various building types forming part of the Proposed Development, the GHG assessment considers the majority of the built space.

## METHOD OF BASELINE DATA COLLATION

### DESK STUDY

15.2.12. The temporal scope would cover the duration of the construction and demolition as well as operation phase of the Proposed Development. The operational phase of the Proposed Development has been assumed to be 60 years, which is the typical design life of this type of development.

15.2.13. The GHG assessment has included a desk-based study using the following sources of baseline data:

- One Click Software - Embodied Carbon Calculation **(Ref 15.24);**
- Volume 2, Appendix 12.1: Transport Assessment (2026) - WSP **(Ref 15.29)** ;
- Royal Institute of British Architects (RIBA) 2030 Climate Challenge **(Ref 15.16);** and
- Department for Energy Security and Net Zero, 2005 to 2022 UK local and regional $CO_2$ emissions – data tables, 2022. **(Ref 15.23)**

### SITE VISIT AND SURVEYS

15.2.14. For the purpose of this assessment, no site visit or survey was required.

### ASSESSMENT METHODOLOGY

15.2.15. The assessment follows the emerging best practice. Current best practice is reflected in IEMA (2022) Environmental Impact Assessment Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance **(Ref 15.15)**. This guidance advocates a 'good practice' approach where GHG emissions are always considered and reported but at varying degrees of detail depending on the EIA and the Proposed Development in question.

15.2.16. In line with the guidance, this chapter sets out the methodological approach that has been taken to assess GHG emissions associated with the Proposed Development. This means providing the

assessment approach, calculating the baseline, determining the significance of each GHG emission source scoped into the assessment and setting out strategies for mitigation.

15.2.17. Existing sources of GHG emissions prior to construction and operation of the Proposed Development (i.e. without development) are identified to assess the current baseline. Sources of GHG emissions following the construction and during operation of the Proposed Development are then assessed, from which the significance, mitigation measures and residual effects are determined.

15.2.18. The environmental effects assessed are:

- **Whole Life Embodied Carbon emissions**: This includes embodied carbon emissions related to materials and construction process throughout the lifespan of the building, including upfront emissions during constructions, construction transport emissions, emissions from replacements / repairs during the operational phase and end-of-life emissions;
- **Operational Carbon emissions (from energy and water use):** This includes carbon emissions related to the energy consumption, and consumption of water throughout the operational phase of the development; and
- **Operational Transport emissions:** This includes emission related to the transport, throughout the operational phase of the Proposed Development.

15.2.19. Further details on these three assessed effects are provided below

**WHOLE LIFE EMBODIED CARBON EMISSIONS**

15.2.20. As mentioned above, the scope of whole life embodied carbon emissions includes lifecycle modules A1-3 (Materials and products); A4 (transport of materials and products to construction site); A5 (Construction site impacts); B1-B5 (Maintenance and replacement) and C1-C5 (end-of-life disposal).

15.2.21. The design information required to perform an assessment of whole life embodied carbon emissions from the Proposed Development is not available at this early design phase. Hence, the latest available industry benchmarks (RIBA 2030 Climate Challenge (2021) **(Ref 15.16)**, and London Energy Transformation Initiative (LETI): Embodied Carbon Target Alignment) **(Ref 15.17)** have been used as a reference to inform the Proposed Development's whole life embodied carbon impact.

15.2.22. RIBA has developed targets for embodied carbon, operational energy, and water use. These consider the latest recommendations from the Green Construction Board and have been developed by RIBA in consultation with other UK professional bodies. Similarly, 'The Embodied Carbon Target Alignment' document developed by LETI **(Ref 15.17)** in consultation with industry groups, including CIBSE, RIBA, IStructE, and the GLA outlines total embodied carbon targets, as well as upfront carbon targets. These targets (summarised in **Table 15-4** and **Figure 15-1**) are progressive yet realistic, and a vital first step to ensure the construction industry has delivered the significant reductions necessary by 2030 in order to have a realistic prospect of achieving net zero carbon for the whole UK building stock by 2050.

**Table 15-4 - RIBA 2030 Climate Challenge target for embodied carbon for domestic and non-domestic buildings**

| RIBA sustainable outcome metrics | Business as usual (new build, compliance approach) | 2025 Targets | 2030 Targets |
|---|---|---|---|
| **Domestic** | | | |
| Embodied Carbon $kgCO_2e/m^2$ | 1200 $kgCO_2e/m^2$ | <800 $kgCO_2e/m^2$ | <625 $kgCO_2e/m^2$ |
| **Non-domestic (new build offices)** | | | |
| Embodied Carbon $kgCO_2e/m^2$ | 1400 $kgCO_2e/m^2$ | <970 $kgCO_2e/m^2$ | <750 $kgCO_2e/m^2$ |
| **Non-domestic (new build schools)** | | | |
| Embodied Carbon $kgCO_2e/m^2$ | 1000 $kgCO_2e/m^2$ | <675 $kgCO_2e/m^2$ | <540 $kgCO_2e/m^2$ |

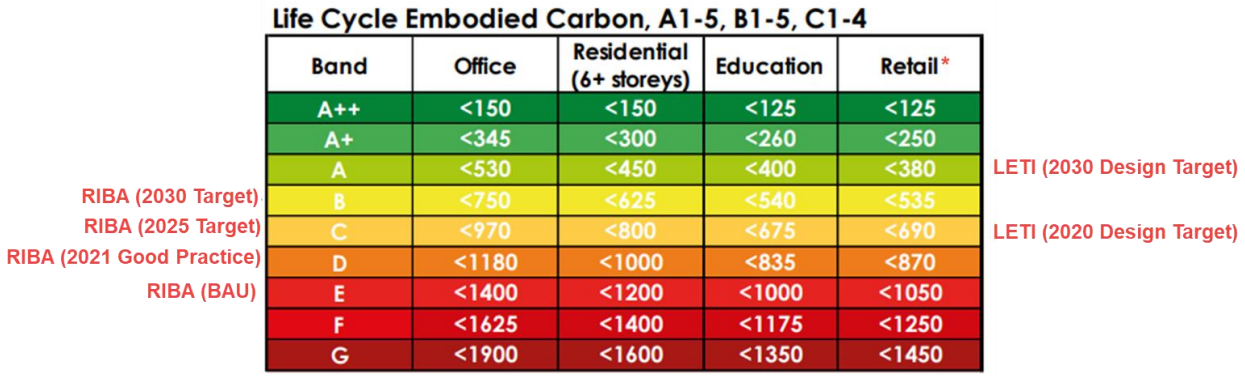



**Figure 15-1 - LETI Embodied carbon target alignment benchmarks and mapping with RIBA 2030 targets**

## OPERATIONAL CARBON EMISSIONS (ENERGY AND WATER USE)

15.2.23. The operational period for the residential portion of the Proposed Development is assumed to start at 2030. Since the expected lifespan of developments of this nature are typically assumed to be 60 years, then the operational part of the assessment covers the period of 2030-2089.

15.2.24. The assessment of significance of the effects from operational building and transport emissions is undertaken on an annual basis. The results for critical climate period of 2030-2089 are also provided for the Proposed Development on a contextual basis, covering the whole life of the Proposed Development (60 years).

15.2.25. An Outline Energy Statement has been prepared by Hodkinson Consultancy for this outline planning application for the Proposed Development. The Outline Energy Statement establishes the principles and energy assessment methodology. The operational energy figures for different building types in the Proposed Development are referenced from the average estimated energy consumption figures shared by Hodkinson Consultancy for domestic and non-domestic areas.

15.2.26. The RIBA benchmarks are available for annual operational energy consumption. Hence the energy figures are used for benchmarking purposes. Carbon emissions from operational energy use are assessed over the whole expected life (60 years) of the Proposed Development. While calculating the carbon emissions from operational energy use, the decarbonisation of grid electricity has been considered. This has been done by using the average predicted annual carbon factors for grid electricity, based on data published by the UK Government **(Ref 15.20)**. These emission factor for grid electricity consider grid decarbonisation, and therefore the carbon emissions from grid electricity continue to remain consistent from 2050 until 2100.

15.2.27. For domestic building use, the operational water use figures for the Proposed Development are based on the indicative water consumption figures calculations provided by Hodkinson Consultancy. For the employment and neighbourhood centre water consumption, benchmarks from Better Building Partnership REEB insights study were used in absence of the actual data. The study specifies water intensity of 479 l/m$^2$/year for offices and 572 l/m$^2$/year for shopping centres. **(Ref 15.28)** The carbon emissions from water supply have been calculated using the 2025 factor for water supply from the UK Government GHG Conversion Factors for Company Reporting (0.149 kg$CO_2$e/m$^3$) **(Ref 15.21).**

15.2.28. To assess the magnitude and significance of impacts from operational energy and water use during the operational phase of the Proposed Development, a comparison has been done with the RIBA targets for operational energy and potable water use **(Table 15-5)**.

**Table 15-5 - RIBA 2030 Climate Challenge target for operation energy and water use for domestic and non-domestic buildings**

| RIBA sustainable outcome metrics | Business as usual (new build, compliance approach) | 2025 Targets | 2030 Targets |
|---|---|---|---|
| **Domestic** | | | |
| Operational energy kWh/m$^2$/yr | 120 kWh/m$^2$/y | <60 kWh/m$^2$/y | <35 kWh/m$^2$/y |
| Potable Water use l/person/day | 125 l/p/day | <95 l/p/day | <75 l/p/day |
| **Non-domestic (new build offices)** | | | |
| Operational energy kWh/ m$^2$/yr | 130 kWh/m$^2$/y | <75 kWh/m$^2$/y | <55 kWh/m$^2$/y |
| Potable Water use l/person/day | 16 l/p/day | <13 l/p/day | <10 l/p/day |
| **Non-domestic (new build schools)** | | | |
| Operational energy kWh/ m$^2$/yr | 145 kWh/m$^2$/y | <70 kWh/m$^2$/y | <60 kWh/m$^2$/y |
| Potable Water use m$^3$/pupil/year | 4.5 m$^3$/pupil/year | <1.5 m$^3$/pupil/year | <0.5 m$^3$/pupil/year |

**OPERATIONAL TRANSPORT EMISSIONS**

15.2.29. In order to calculate the operational traffic associated with the Proposed Development, the number of trips per vehicle/transport mode, and the average trip distance have been multiplied by emissions

factors for each key vehicle type. The data required was provided by WSP for the GHG assessment. The 2025 Defra emissions factor selected for each vehicle type represents the closest match. This is summarised in **Table 15-6.**

**Table 15-6 - Transport emissions calculation methodology**

| Metric | Unit | Personal Vehicle | Transport Mode |
|---|---|---|---|
| Total Distance (A) | km/year | A=CxD | A=BxD |
| Total Person Trips (B) | people trips/year | - | B |
| Total Vehicle Trips (C) | vehicle trips/year | C | - |
| Average Trip Length (D) | km/trip | D | D |
| Emissions Factor Value (E) | $kgCO_2e/km$ | E | E |
| Total (T) | $kgCO_2e$ | T=ExA | T=ExA |

15.2.30. Provision for electric vehicle charging points is intended for all individual residential dwellings, with details to be confirmed at reserved matters stage. Residential communal car parks and commercial communal car parks will be served by the appropriate percentage in accordance with relevant policy. Secure and weatherproof cycle storage will also be provided. This is elaborated on in the Sustainability Statement and Transport Assessment for the Proposed Development.

**SIGNIFICANCE CRITERIA**

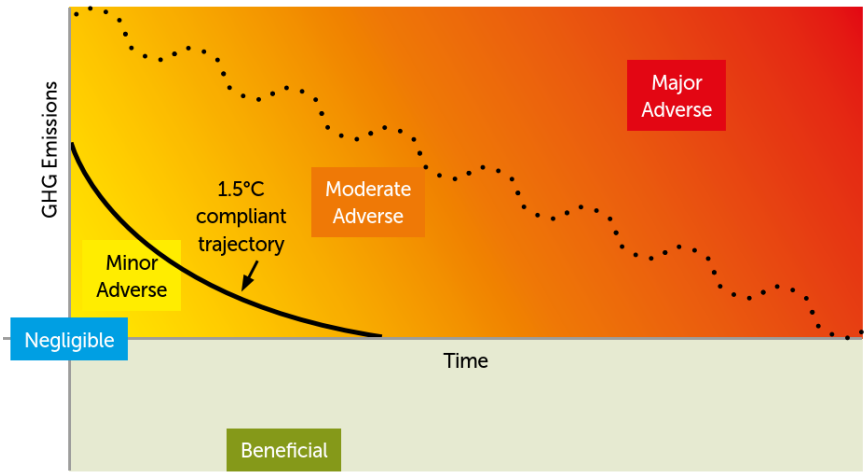
15.2.31. With regards to assigning significance, the 2nd edition of the IEMA guidance on Assessing Greenhouse Gas Emissions and Evaluating their Significance, February 2022 **(Ref 15.15)**, provides five distinct levels of significance which are not solely based on whether a project emits GHG emissions alone, but how the project makes a relative contribution towards achieving a science-based 1.5°C aligned transition towards net zero. Specifically, when considering the aspect of significance IEMA guidance on GHG assessment states:

*"When evaluating significance, all new GHG emissions contribute to a negative environmental impact; however, some projects will replace existing development or baseline activity that has a higher GHG profile. The significance of a project's emissions should therefore be based on its net impact over its lifetime, which may be positive, negative, or negligible…..*

and

*…. The crux of significance therefore is not whether a project emits GHG emissions, nor even the magnitude of GHG emissions alone, but whether it contributes to reducing GHG emissions relative to a comparable baseline consistent with a trajectory towards net zero by 2050."*

15.2.32. **Figure 15 2** illustrates how the significance of a project's whole life GHG emissions can be determined and how these align with the UK's net zero compatible trajectory.




Source: IEMA (2021) Assessing Greenhouse Gas Emissions and Evaluating their Significance **(Ref 15.15)**

**Figure 15-2 - Different levels of significance plotted against the UK's net zero compatible trajectory**

15.2.33. The different levels of significance defined in the IEMA guidance are explained below:

- A **Major adverse** or **Moderate adverse** which is considered **significant** is assigned when a project follows a 'business-as-usual' or 'do minimum' approach and is not compatible with the UK's net zero trajectory or accepted aligned practice or area-based transition targets. The differentiation between the level of significance is determined by the practitioner based on professional judgement and experience;
- A project is be said to have **Minor adverse** effect which is considered to be **not significant** when the project complies with up-to-date policy and 'good practice' reduction measures to be compatible with and achieve the budgeted, science-based 1.5 °C trajectory (in terms of rate of emissions reduction). There may be residual emissions, but the project demonstrates sufficient efforts to contribute towards UK net zero target by 2050. The differentiation between the level of significance is determined by the practitioner based on professional judgement and experience;
- A project is assessed as having a **negligible** effect that is **not significant**, when it demonstrates achieving emissions that are substantially beyond the reduction trajectory, or substantially beyond existing and emerging policy compatible with that trajectory and has minimal residual emissions; and
- A project has a **beneficial** effect that is **significant**, when it causes GHG emissions to be avoided or removed from the atmosphere.

**Contextualising GHG emissions**

15.2.34. Contextualising the GHG emissions from a project helps to determine whether it supports or undermines the UK's trajectory towards net zero. IEMA guidance further suggests that "*It is down to the practitioner's professional judgement on how best to contextualise a project's GHG impact.*

15.2.35. Therefore, to contextualise the carbon emissions of the Proposed Development, these have been compared to:

- **UK Carbon Budgets –** the total carbon emissions from the Proposed Development are compared to the UK Carbon Budgets to compare how the emissions from the Proposed Development will influence the national carbon targets;

- **Existing and future baseline** – with the purpose to assess the magnitude of impact of the effects. In the absence of specific targets related to transport carbon emissions from new developments, the transport carbon emissions from the Proposed Development have been compared with the existing and future baselines of transport carbon emissions and the professional judgement of the author has been used to assess the level of significance.

## 15.3. LEGISLATIVE FRAMEWORK, POLICY AND GUIDANCE

### LEGISLATIVE FRAMEWORK

15.3.1. The applicable legislative framework is summarised as follows:

- Climate Change Act 2008 (2050 Target Amendment) Order 2019; **(Ref 15.1);**
- Planning and Energy Act 2008; **(Ref 15.2);**
- Carbon Budgets 2021; (**Ref 15.3);**
- The Carbon Plan: Delivering our Low Carbon Future, 2011 **(Ref 15.4);** and
- UK Climate Change Risk Assessment (2022) **(Ref 15.5)**

**Climate Change Act 2008 (2050 Target Amendment)**

15.3.2. The Climate Change Act 2008 sets targets for reducing the UK's impacts on climate change and the need to prepare for managing the impacts. The Act sets a target of 80% carbon dioxide (CO2) emissions reduction by 2050 (against a 1990 baseline) and sets interim targets to ensure progress towards this target. The Act also requires a Climate Change Risk Assessment (CCRA) to be used to assess the risks from the impact of climate change to the UK. The first CCRA in the UK was presented to Parliament in an Evidence Report in 2012, with the second presented in 2017. The overall aim of the Reports was to assess the urgency of further action to tackle current and future risks, and realise opportunities, arising for the UK, from climate change. The Act also requires the production of a national adaptation plan for the UK Government to implement to be ready for the challenges of climate change and a variety of organisations with key responsibilities (i.e., deemed to have adaptation reporting powers, ARP), were required to submit an ARP report of the steps they were and are taking to prepare for climate change.

**Carbon Budgets, 2021**

Carbon budgets place restrictions on the amount of GHG emissions the UK can emit over a five-year period. The UK is the first country to set legally binding carbon budgets. Every tonne of human induced GHG emitted between now and 2050 will be counted towards the budget. If emissions rise in one sector, the UK will have to reduce emissions in another sector to balance the budget. The carbon budgets for different budgetary periods are listed in **Table 15-7**. Note, '$CO_2e$' describes a wider range of GHGs than just $CO_2$. It includes the equivalent from GHGs such as methane and nitrous oxide, which usually occur in smaller volumes than $CO_2$ but have a greater warming potential.

**Table 15-7 - UK Carbon Budgets**

| Carbon Budget Period | UK Carbon Budget ($MtCO_2e$) |
|---|---|
| **Third: 2018-2022** | 2,544 |
| **Fourth: 2023-2027** | 1,950 |
| **Fifth: 2028-2032** | 1,725 |
| **Sixth: 2033-2037** | 965 |

### POLICY

15.3.3. The applicable policy and regulation context for the assessment of the Proposed Development comprises:

- National Planning Policy Framework (NPPF), December 2024 (with footnote revision in February 2025); **(Ref 15.6)**
- Building Regulations 2010, Approved Document L1A: conservation of fuel and power in dwellings, 2021 edition with 2023 amendments; **(Ref 15.7)**
- Horsham District Planning Framework (2015); **(Ref 15.8)**
- Horsham District Local Plan 2023-2040 Regulation 19 **(Ref 15.9)**
- Horsham Local Plan Regulation 19 Draft (2021) (the Emerging Local Plan); **(Ref 15.10)**
- Southwater Neighbourhood Plan (June 2021); **(Ref 15.12)**
- Southwater Parish Council Neighbourhood Plan 2019-2031 **(Ref 15.13)**

15.3.4. In addition, this chapter has been prepared in accordance with the Government's National Planning Practice Guidance (**Ref. 15.14**).

### GUIDANCE

15.3.5. The following guidance documents have been used during the preparation of this chapter:

- Environmental Impact Assessment Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance (IEMA), 2nd Edition, February 2022 **(Ref 15.15)**
- RIBA 2030 Climate Challenge version 2 (2021); **(Ref 15.16)**
- LETI: Embodied Carbon Target Alignment **(Ref 15.17)**
- RICS guidance on Whole Life Carbon Assessment for the Built Environment (2017). **(Ref 15.18)**

## 15.4. BASELINE CONDITIONS

15.4.1. In the baseline scenario, GHG emissions occur constantly and widely as a result of human and natural activity including energy consumption (fuel, power), industrial processes, land use and land use change. The GHG assessment only considers instances in which the Proposed Development results in additional or avoided emissions in comparison to the baseline scenario and its assumed evolution.

### Existing Baseline

15.4.2. The Site is located adjacent to and west of the settlement of Southwater, within the administrative boundary of Horsham District Council. The Site is bounded by the A24 to the north, Worthing Road to the east, Bonfire Hill to the south and Marlpost Road and Two-Mile Ash Road to the west.

15.4.3. The Site comprises primarily agricultural land, with hedgerows, scattered trees, areas of woodland and a number of streams and drains running in various directions throughout the Site.

15.4.4. The Site is classified as a Greenfield site, currently draining via natural overland runoff, land drains and infiltration. The Proposed Development commits to the retention and enhancement of the existing woodlands wherever possible, and the associated energy and embodied baseline emissions from the existing site are considered to be zero.

15.4.5. Additionally, with the Proposed Development being situated on a site with limited physical development or activity, the existing GHG emissions can be considered to be zero, in line with the IEMA guidance for GHG assessments (**Ref 15.15**). In this instance there would be zero GHG emissions to report. Therefore, the current use of the Site is not likely to generate any significant traffic flows or emissions. As a result, there are zero transport, demolition and building GHG emissions associated with the existing Site.

15.4.6. In summary, the total Baseline GHG emissions for the existing Site are considered to be Zero.

### FUTURE BASELINE

15.4.7. The future baseline scenario for traffic emissions considers the Local Plan scenario in 2038. The Transport Assessment (**Ref 15.29**) indicates that in the absence of the Proposed Development in future, the carbon emissions from transport will be zero. Hence, the carbon emissions for future baseline are also considered to be zero.

## 15.5. SENSITIVE RECEPTORS

15.5.1. The sensitive receptor assessed is: Global climate impacted by the creation and release of GHG emissions.

## 15.6. ASSESSMENT OF POTENTIAL EFFECTS, MITIGATION AND RESIDUAL EFFECTS

### WHOLE LIFE EMBODIED CARBON EMISSIONS

15.6.1. Activities during the construction phase would generate GHG emissions, particularly from the manufacture of construction materials, but also from transport to the construction site and from on-site works.

15.6.2. In the absence of the required specific information on the Proposed Development at this early design phase, the embodied carbon emissions generated from the construction of various building types during the different phases of the Proposed Development are referenced from RIBA 2030 Climate Challenge Targets (2021) (Ref 15.16) Phase 1 of the Proposed Development, which is assumed to deliver up to 1,000 dwelling units (GIA 97,300 m2) which will be completed by the year 2030, employment areas (GIA 17,000 m2) and neighbourhood centre (2,000 m2), delivered subsequently by the year 2038. It is proposed that the design and construction of the Proposed Development aim to align with RIBA 2025 targets for whole life embodied carbon, as listed in **Table 15-8**. In absence of neighbourhood centre specific RIBA target, new build school is used for benchmarking.

**Table 15-8 - Whole life embodied carbon of the Proposed Development**

| Building use | RIBA 2025 Target ($kgCO_2e/m^2$) | GIA of the Proposed Development ($m^2$) | Total whole life embodied carbon of the Proposed Development ($kgCO_2e$) |
|---|---|---|---|
| **Domestic** | <800 | 97,300 | 77,840,000 |
| **Non-domestic (new-build offices)** | <970 | 17,000 | 16,490,000 |
| **Non-domestic (neighbourhood centre)(new-build school typology considered)** | <675 | 2,000 | 1,350,000 |
| **Total** | | | **95,680,000** |

15.6.3. The total whole life embodied carbon emissions for the Proposed Development are estimated to be approximately **95,680,000 $kgCO_2e$ or 95,680 $tCO_2e$**.

15.6.4. The whole life embodied carbon emissions of the Proposed Development are anticipated to align with the RIBA 2025 target. Therefore, the significance of the embodied carbon emissions is likely to have **Minor adverse** (**not significant**) effect on climate. For reducing the embodied carbon emissions and achieving or exceeding the RIBA 2025 targets, mitigation measures will need to be identified and embedded through various lifecycle stages of the Proposed Development.

**Table 15-9 - Assessment of potential effects, additional mitigation, residual effects and monitoring during construction**

| | |
|---|---|
| **Sensitive receptor** | Global climate |
| **Potential effects** | Whole Life Embodied Carbon emissions due to extraction of raw materials, manufacturing and transport; construction transport; site construction activities; repair and replacement of materials and systems during operation phase of the buildings and carbon impact at the end of life of the buildings.<br>The sensitivity of Global Climate is high, and there is likely to be a direct and indirect, permanent, long-term **Minor adverse** effect on Global climate (**not significant**). |
| **Additional mitigation** | Whole life embodied carbon reduction measures including optimising material usage and use of low carbon materials, reducing construction waste; embedding end-of-life measure in the design age should be explored in later design phases. |
| **Residual effects and monitoring** | The sensitivity of Global climate is high, and there is likely to be a direct and indirect, permanent, long-term **Minor adverse** residual effect on Global climate (**not significant**) following the implementation of mitigation measures.<br>It is recommended that a whole life embodied carbon assessment and options appraisal is undertaken at the detailed design phase to monitor the performance of the Proposed Development against benchmarks. |

## OPERATIONAL CARBON EMISSIONS (ENERGY AND WATER USE)

15.6.5. The Outline Energy Statement **(Ref 15.27)** prepared by Hodkinson Consultancy for the Proposed Development suggests that a standards-based approach that accounts for the changes in regulation and policy over the prolonged build timescales, will be adopted. The key design principles will be focused around providing flexibility to meet varying standards. These include, energy efficient design principles, installation of building level renewable power systems and consideration of larger energy infrastructure for the Site. Additionally, there is an ambition of delivering net zero carbon ready homes through the application of a progressive agenda of energy measures.

15.6.6. Based on the above scenario, estimated energy use for domestic and non-domestic areas was provided by Hodkinson Consultancy as listed in **Table 15-10**.

**Table 15-10 - Annual operational energy use estimates for the Proposed Development**

| Building use | Estimated Energy Consumption (kWh/m$^2$/yr) | GIA of the Proposed Development (m$^2$) | Total annual operational energy for the Proposed Development (kWh/yr) |
|---|---|---|---|
| **Domestic** | 40.35 | 97,300 | 3,926,055 |
| **Non-domestic (new-build offices)** | 54.68 | 17,000 | 929,560 |
| **Non-domestic (neighbourhood centre)** | 54.68 | 2,000 | 109,360 |
| **Total** | | | **4,964,975** |

15.6.7. The total annual energy consumption from regulated and unregulated energy use for residential part of the Proposed Development is estimated as approximately **3,926,055 kWh/yr or 3,926 MWh/yr**. For the non-residential uses (employment and neighbourhood centre) of the Proposed Development, the total annual energy use is estimated as **1,038,920 kWh/yr or 1,039 MWh.** The overall total annual energy consumption rate of the Proposed Development is estimated to be approximately **4,964,975 kWh/yr or 4,965 MWh/yr**. The total operational energy use over the 60-year expected life of the Proposed Development is estimated to be about **297,899 MWh.**

15.6.8. Carbon emissions from operational energy use are assessed over the whole expected life (60 years) of the Proposed Development. While calculating the carbon emissions from operational energy use, the decarbonisation of grid electricity has been considered. This has been done by using the average predicted annual carbon factors for grid electricity, based on data published by the UK Government **(Ref 15.20)**. These emission factors for grid electricity consider grid decarbonisation, and therefore the carbon emissions from grid electricity continue to remain consistent from 2050 until 2100.

15.6.9. The total tonnes of operational carbon emissions predicted to be generated by the Proposed Development due to energy use are therefore estimated to be about **3,132,052 kg$CO_2$e or 3,132 t$CO_2$e.**

15.6.10. For domestic building use, the operational water use figures for the Proposed Development are based on the indicative water consumption figures calculations provided by Hodkinson Consultancy. For the employment and neighbourhood centre water consumption, benchmarks from Better Building Partnership REEB insights study were used in absence of the actual data. The study specifies water intensity of 479 l/m$^2$/year for offices and 572 l/m$^2$/year for shopping centres. **(Ref 15.28)** (**Table 15-11)**.

**Table 15-11 - Daily operational water use estimate for the Proposed Development**

| Building use | Predicted consumption | Total Consumption (l/day) |
|---|---|---|
| **Domestic** | 110 (l/p/day) | 264,000 |
| **Non-domestic (employment)** | 1.31 (l/m2/day) | 22,310 |
| **Non-domestic (neighbourhood centre)** | 1.57 (l/m2/day) | 3,134 |
| **Total** | | **289,444** |

15.6.11. The total daily water consumption demand for the Proposed Development (excluding community and retail spaces, sports pitches such as 2 football pitches, a cricket pitch and gypsy and traveller pitches) is estimated to be approximately **289,444 l/day** or **289 m$^3$/day**. This equates to an annual water consumption of approx. **105,647 m$^3$/yr.** The total tonnes of operational carbon emissions to be generated by the Proposed Development are calculated using the 2021 factor for water supply (0.149 kg$CO_2$e/m$^3$) from the UK Government GHG Conversion Factors for Company Reporting **(Ref 15.21)**. This is approximately **15,741 kg$CO_2$e/yr and 944,484.2 kg$CO_2$e or 944 t$CO_2$e** over the 60-year period.

15.6.12. The annual energy consumption of the residential part of the Proposed Development is anticipated to be 40.35 kWh/m$^2$/year. This is within the RIBA 2025 target (<60kWh/m$^2$/year). Therefore, the significance of effect of the operational carbon emissions from residential is likely to have **Minor adverse** (**not significant**) effect on climate.

15.6.13. The average annual energy consumption for the non-domestic areas (employment and neighbourhood centre) on the Site is anticipated to be 54.68 kWh/m$^2$/year and 54.68 kWh/m$^2$/year, respectively. This is well within the RIBA 2025 targets for employment (<90 kWh/m$^2$/year) and neighbourhood centre (reference used - new-build school) (<75 kWh/m$^2$/year) respectively. Also, as demonstrated in **Figure 15-3** the carbon emissions due to operational energy use form only 1% of the total carbon impact of the Proposed Development. Therefore, the significance of effect of the operational energy use for the employment and neighbourhood centre development on the Site is likely to have **Minor adverse** (**not significant**) effect on climate.

15.6.14. The annual water consumption for the residential part of the Proposed Development is calculated as 110 l/person/day. This aligns with the RIBA 2025 target (< 95 l/person/day). Additionally, the overall carbon emission from water use is negligible as compared to all other carbon emissions from the Proposed Development. Therefore, the significance of effect of carbon emissions from operational water use for the Proposed Development is likely to have a **Minor adverse** (**not significant**) effect on climate.

**Table 15-12 - Assessment of potential effects, additional mitigation, residual effects and monitoring during operation**

| | |
|---|---|
| **Sensitive receptor** | Global climate |
| **Potential effects** | Operational carbon emissions due to energy and water use.<br>The sensitivity of Global Climate is high, and there is likely to be a direct, permanent, long-term **Minor adverse** effect on Global climate (**not significant**). |
| **Additional mitigation** | Future ready[1] approach to benefit from future grid decarbonisation. |
| **Residual effects and monitoring** | The sensitivity of Global climate is high, and there is likely to be a direct, permanent, long-term **Minor adverse** residual effect on Global climate (**not significant**) following the implementation of mitigation measures.<br>Operational energy performance assessment; in-use monitoring |

## OPERATIONAL TRANSPORT EMISSIONS

15.6.15. The calculation for annual transport emissions from various modes of transport during the operational phase of the Proposed Development are provided in **Table 15-13.**

**Table 15-13 - Operational transport emission for the Proposed Development**

| Metric | Unit | Train | Bus | Car (petrol) | Car (EV) | Bicycle | Walk |
|---|---|---|---|---|---|---|---|
| Total Distance | km/year | 23,279,390 | 2,173,835 | 21,199,538 | 9,085,516 | 359,360 | 465,130 |
| Total Vehicle Trips | vehicle trips/year | 399,675 | 245,645 | 1,587,422 | 680,324 | 77,015 | 361,350 |
| Average Trip Length | km/trip | 58.2 | 8.8 | 13.4 | 13.4 | 4.7 | 1.3 |
| Emissions Factor description | per passenger/km | National rail, per passenger.km | Average local bus, per passenger.km | Average car, unknown fuel, per km | Average car, battery electric vehicle, per km | Conventional bike, per passenger km | On foot |
| Emissions Factor Value | $kgCO_2e/km$ | 0.0355 | 0.1023 | 0.1715 | 0.0503 | 0.0049 | 0.0098 |
| **Total** | **$kgCO_2e$/year** | **826,186** | **222,318** | **3,635,297** | **457,092** | **1,761** | **4,558** |

15.6.16. It should be noted that the provision of EVs has been considered in the Transport Assessment **(Ref 15.29)**, however specific infrastructure at each property will be detailed and agreed in the reserved matters stage.. Based on the IEMA guidance, the adoption of EV cars in future has been considered and EV data projections used in the above assessment are based on the TAG table A1.3.9 **(Ref 15.22)**. The TAG data projections indicate about 30% of cars would be electric by 2038. The total annual transport carbon emissions for the Proposed Development therefore equates to about **5,147,212 $kgCO_2e/yr$ or 5,147 $tCO_2e/yr$,** and about **294,503 $tCO_2e$** over the period of 2030 to 2089.

15.6.17. The total carbon emission for the Proposed Development is **377,186 $tCO_2e$. Table 15-14** summarises the total whole life embodied carbon, operational carbon (energy and water use) and transport emissions during the whole 60-year expected life of the Proposed Development (2030 to 2089).

**Table 15-14 - Summary of total whole life embodied carbon, operational carbon, and transport emissions**

| GHG emission category | Value | Unit |
|---|---|---|
| Whole life embodied carbon emissions (A1-C4, excluding B6 and B7) | 95,680 | $tCO_2e$ |
| Operational carbon emissions (energy use) (with grid decarbonisation) | 3,132 | $tCO_2e$ |
| Operational carbon emissions (water use) | 944 | $tCO_2e$ |
| Operational Transport emissions | 294,503 | $tCO_2e$ |
| **Total** | **394,259** | **$tCO_2e$** |

15.6.18. The transport carbon emissions during the operation phase of the Proposed Development are estimated to have the highest carbon impact, constituting about 75% of the total carbon emissions from the Proposed Development. This is followed by the whole life embodied carbon emissions i.e. carbon emissions from the construction, use, repair and maintenance, and end-of-life of the buildings on the Site which are estimated to constitute about 24% of the total carbon emissions from the Proposed Development. Interestingly, carbon emissions from operational energy use are estimated to constitute only about 1% of the total carbon emissions from the Proposed Development. The percentage of carbon emissions from water use during the operational phase of the Proposed Development are estimated to be nearly negligible (**Figure 15B-3**).

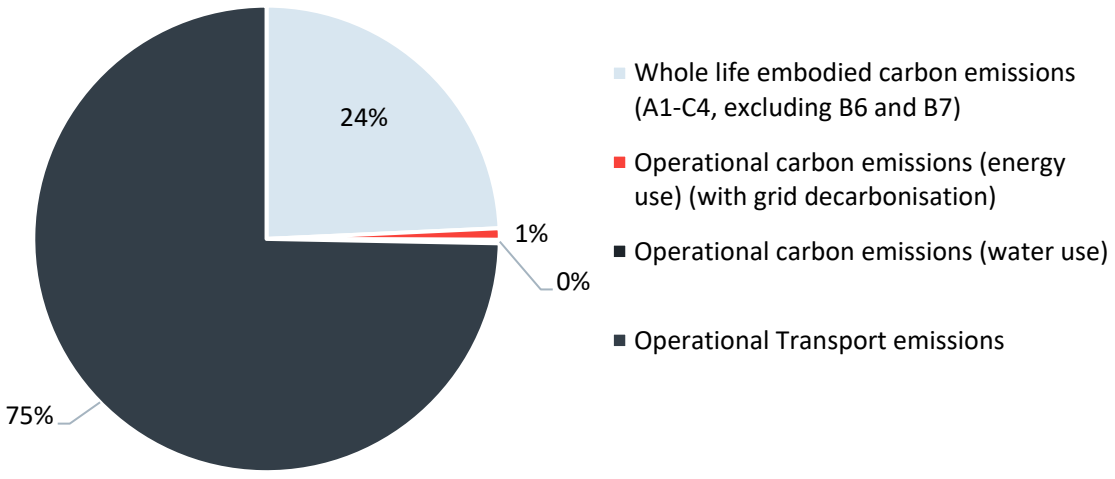



**Figure 15-3 - Proportion of GHG emissions over the 60-year expected life of the Proposed Development**

15.6.19. The operational transport emissions of the Proposed Development are estimated to be 294,503 $tCO_2e$. This is a 100% increase from the baseline transport carbon emission associated with the current use of the Site.

15.6.20. There is no method to assess the significance of transport carbon emissions of the Proposed Development. However, based on the magnitude of carbon emissions from transport and it being the highest contributor (75%) to the overall carbon emissions from the Proposed Development the operational transport carbon emissions are likely to have **Moderate adverse** (**significant**) effect on climate prior to the implementation of mitigation measures.

**Table 15-15 - Assessment of potential effects, additional mitigation, residual effects and monitoring during operation**

| | |
|---|---|
| **Sensitive receptor** | Global climate |
| **Potential effects** | Operational Transport emissions<br>The sensitivity of Global Climate is high, and there is likely to be a direct and indirect, permanent, long-term **Moderate adverse** effect on Global climate (**significant**). |
| **Additional mitigation** | Embedding sustainable transport in the design; future-ready approach to benefit from increasing future EV use. The development is contributing to improvements to bus services that will result in a high frequency bus service from the development (effectively a turn up and go level of service provision). |
| **Residual effects and monitoring** | The sensitivity of Global climate is high, and there is likely to be a direct and indirect, permanent, long-term **Minor adverse** residual effect on Global climate (**not significant**) following the implementation of mitigation measures.<br>Prepare a Travel Plan and adhere to the measures proposed in it. Travel surveys would be carried out on a bi-annual basis, until one year post full occupation, to examine any change in modal splits, the effectiveness of the Travel Plan measures, and to ensure that the Travel Plan reflects the latest opportunities at the Site. The introduction of the new secondary school and employment areas on the site will take some vehicle trips off the roads. In particular, there is currently no secondary school in Southwater and children will need to travel to other schools much further afield. |

**UK Carbon Budget Effect**

15.6.21. In order to contextualise the GHG emissions generated by the Proposed Development during the operation phase, the results on the assessment of potential effects have been compared against the UK Carbon Budgets.

15.6.22. The total emissions during each of the UK Carbon Budget 5-year period is presented in **Table 15-16** and compared in percentage terms to the respective budget.

**Table 15-16 - Proposed Development impacts on the UK Carbon Budgets**

| GHG Carbon Budget Period | UK Carbon Budget (Mt $CO_2e$) | Carbon emissions from the Proposed Development (Mt $CO_2e$) | % Share from GM Carbon budget |
|---|---|---|---|
| Fourth: 2023-2027 | 1,950 | 0.0263 | 0.1348% |
| Fifth: 2028-2032 | 1,725 | 0.0263 | 0.1524% |

| GHG Carbon Budget Period | UK Carbon Budget (Mt $CO_2e$) | Carbon emissions from the Proposed Development (Mt $CO_2e$) | % Share from GM Carbon budget |
|---|---|---|---|
| Sixth: 2033-2037 | 965 | 0.0263 | 0.2724% |
| Seventh: 2038-2042 | 535 | 0.0263 | 0.4913% |

15.6.23. The Proposed Development is not expected to influence the achievement of national carbon budgets throughout its construction, operation, and end of life phases.

## ENERGY EFFICIENCY MEASURES

15.6.24. A fabric first approach will be adopted. The design of the buildings will carefully consider its form factor to allow for an efficient build form. More specifically the National House Building Council (NHBC) design guide on form factor in 2016 **(Ref 15.26)** (the challenge of shape and form), will be referred in relation to design of homes on the Proposed Development Site.

15.6.25. The building fabric efficiency will also be enhanced by reducing thermal breaks wherever feasible. Further details of specific measures to avoid heat loss through thermal bridging are provided in the Outline Energy Statement **(Ref 15.27)** prepared by Hodkinson Consultancy.

15.6.26. Outline principles such as maximising passive solar gains through carefully orienting buildings and minimising expansive glazed areas on facades which benefit least from this will be considered from the outset. As a general rule of thumb, expansive glazed areas are best reserved for southerly facing orientations, but with the provision of sufficient shading to counteract summer overheating. Passive solar gains effectively provide ‘free’ heat, which is particularly beneficial within the winter months, and thus reduces the demands on the building heating system.

15.6.27. High standards of fabric efficiency will be targeted in all buildings, with all element U-values exceeding the expected minimum performance standards in the respective Part L iterations which apply at the time of build.

15.6.28. The air tightness of the buildings will be greatly assisted by the build form and fabric efficiency principles which the applicant will embed into all designs. Ensuring a high level of air tightness is beneficial as it reduces heat loss as a result of draughts through gaps in the building fabric; and prevents infiltration of humidity from internal warm air into cooler external building fabric.

## BUILDING SYSTEMS

15.6.29. The provision of Mechanical Ventilation with Heat Recovery (MVHR) systems to houses will be investigated, however it may be determined that natural ventilation or decentralised Mechanical Extract Ventilation (dMEV) could provide the ventilation needs more efficiently whilst still enabling the appropriate energy and carbon standards to be achieved.

15.6.30. All homes are likely to be provided with low temperature wet heating systems. Importantly, this allows for flexibility in the selection of heat source and enables retrofitting of different technologies in the future should this be deemed appropriate. Space within all plots for the location of a hot water cylinder should also be allowed for as a future-proofing measure.

15.6.31. The use of heat pumps in homes and non-residential buildings will be a priority. As well as being very efficient, heat pumps also benefit from the decarbonisation progress of the electricity grid.

Increasing $CO_2$ savings into the future would be locked in so long as the grid continued its projected trajectory.

15.6.32. At this stage, photovoltaic (PV) panels are considered the most likely renewable power technology for the Proposed Development.

## 15.7. DIFFICULTIES AND UNCERTAINTIES

15.7.1. Due to the early design phase of the Proposed Development, and the unavailability of the required data to perform design specific carbon emission calculations, this GHG assessment considered industry standard benchmarks for whole life embodied carbon and operational carbon from energy use. The nature of the development and the influence of various local and national policies and regulations have been considered while selecting relevant benchmarks to estimate the carbon emissions from the Proposed Development. In order to meet the relevant carbon emission targets, necessary design mitigation measures will need to be considered further at detailed design phase.

15.7.2. The significance of effects determined in this GHG assessment are based on current design and carbon emission estimates based on industry benchmarks. The design has the potential to change at detailed design phase and mitigation measures for reducing carbon emissions from the Proposed Development should be considered at further design phases.

## 15.8. SUMMARY

15.8.1. This GHG Assessment chapter reports the effects of the Proposed Development on the climate and concludes on the significance of the Proposed Development in terms of climate change. This includes impact of the whole life embodied carbon emissions (incl. transport), operational building emissions and operational transport emissions. The total carbon emission for the Proposed Development is **394,259 $tCO_2e$.**

15.8.2. The whole life embodied carbon emissions of the Proposed Development are anticipated to align with the RIBA 2025 target. Therefore, the significance of the embodied carbon emissions is likely to have **Minor adverse** (**not significant**) effect on climate. However, in the context of the total carbon emissions from the Proposed Development, the contribution of whole life carbon emissions is estimated to be approximately 24%+. Mitigation measures to reduce the carbon emissions from building materials, transport of materials to and from Site, construction activities, maintenance and repair, and end-of-life of the buildings in the Proposed Development will be incorporated as part of the detailed design phase.

15.8.3. The annual energy consumption of the residential part of the Proposed Development is anticipated to be 40.35 kWh/$m^2$/year. This is within the RIBA 2025 target (<60kWh/$m^2$/year). Therefore, the significance of effect of the operational carbon emissions from residential is likely to have **Minor adverse** (**not significant**) effect on climate.

15.8.4. The annual energy consumption for the employment and neighbourhood centre development on the Site is anticipated to be 54.68 kWh/$m^2$/year and 54.68 kWh/$m^2$/year, respectively. This is well within the RIBA 2025 targets for employment (<90 kWh/$m^2$/year) and neighbourhood centre (reference used - new-build school) (<75 kWh/$m^2$/year) respectively. Also, as demonstrated in **Figure 15-3,** the carbon emissions due to operational energy use form only 1% of the total carbon impact of the Proposed Development. Therefore, the significance of effect of the operational energy use for the employment and neighbourhood centre development on the Site is likely to have **Minor adverse** (**not significant**) effect on climate.

15.8.5. The annual water consumption for the residential part of the Proposed Development is calculated as 110 l/person/day. This aligns with the RIBA 2025 target (< 95 l/person/day). Additionally, the overall carbon emission from water use is negligible as compared to all other carbon emissions from the Proposed Development. Therefore, the significance of effect of carbon emissions from operational water use for the Proposed Development is likely to have a **Minor adverse** (**not significant**) effect on climate.

15.8.6. The operational transport emissions of the Proposed Development are estimated to be 294,503 $tCO_2e$. This is a 100% increase from the baseline transport carbon emission associated with the current use of the Site.

15.8.7. There is no method to assess the significance of transport carbon emissions of the Proposed Development. However, based on the magnitude of carbon emissions from transport and it being the highest contributor (75%) to the overall carbon emissions from the Proposed Development the operational transport carbon emissions are likely to have **Moderate adverse** (**significant**) effect on climate prior to the implementation of mitigation measures.

15.8.8. **Table 15-17** provides a summary of the findings of the assessment.

**Table 15-17 - Summary of GHG emissions effects**

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Construction and Operation Phase** | | | | | |
| Global climate | Whole Life Embodied Carbon emissions due to extraction of raw materials, manufacturing and transport; construction transport; site construction activities; repair and replacement of materials and systems during operation phase of the buildings and carbon impact at the end of life of the buildings. | **Minor adverse (not significant)** P / D& I / LT | Whole life embodied carbon reduction measures including optimising material usage and use of low carbon materials. and reducing construction waste; embedding end-of-life measure in the design age should be explored in later design phases. | **Minor adverse (not significant)** P / D& I / LT | It is recommended that a whole life embodied carbon assessment and options appraisal is undertaken at the detailed design phase to monitor the performance of the Proposed Development against benchmarks. |
| **Operational Phase** | | | | | |
| Global climate | Operational carbon emissions due to energy and water use) | **Minor adverse (not significant)** P / D / LT | Future ready[1] approach to benefit from future grid decarbonisation. | **Minor adverse (not significant)** P / D / LT | Operational energy performance assessment; in-use monitoring. |
| Global climate | Operational Transport emissions | **Moderate adverse (significant)** P / D & I / LT | Embedding sustainable transport in the design; future-ready[1] approach to benefit from increasing future EV use. The development is contributing to improvements | **Minor adverse (not significant)** P / D & I / LT | Prepare a Travel Plan and adhere to the measures proposed in it. Travel surveys would be carried out on a bi-annual basis, until one year post full occupation, to |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | | | to bus services that will result in a high frequency bus service from the development (effectively a turn up and go level of service provision). | | examine any change in modal splits, the effectiveness of the Travel Plan measures, and to ensure that the Travel Plan reflects the latest opportunities at the Site. The introduction of the new secondary school and employment areas on the site will take some vehicle trips off the roads. In particular, there is currently no secondary school in Southwater and children will need to travel to other schools much further afield. |

Key to table:

**P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable**

## 15.9. REFERENCES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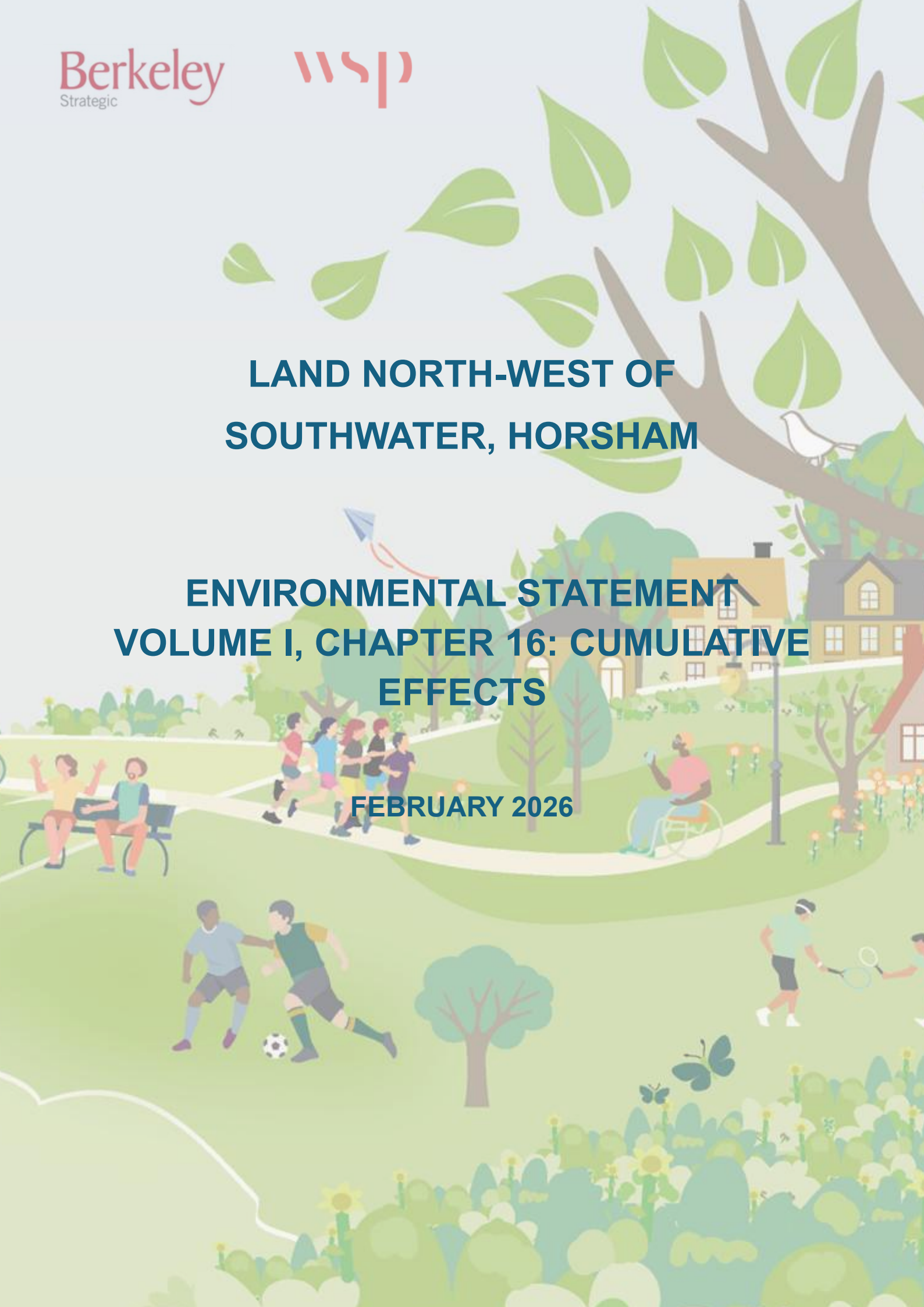
WSP House
70 Chancery Lane
London
WC2A 1AF

**wsp.com**



# LAND NORTH-WEST OF SOUTHWATER, HORSHAM

# ENVIRONMENTAL STATEMENT VOLUME I, CHAPTER 16: CUMULATIVE EFFECTS

FEBRUARY 2026

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# 16. CUMULATIVE EFFECTS

## 16.1. INTRODUCTION

16.1.1. This chapter reports the likely significant cumulative environmental effects (both effect interactions and in-combination effects) associated with the Proposed Development. Cumulative effects comprise the combined effects of reasonably foreseeable human induced changes within a specific geographical area over a certain period of time, which can be both direct and indirect.

16.1.2. For the purposes of this Environmental Statement (ES), the following types of cumulative effects have been considered:

- In-combination effects – the combined effects of the Proposed Development and other projects on a receptor; and
- Effect interactions – the interaction and combination of different environmental effects from within the Proposed Development affecting a receptor

16.1.3. This section should be read in conjunction with the information presented in **Volume1, Chapter 5: Approach to EIA**.

## 16.2. LEGISLATIVE FRAMEWORK, POLICY AND GUIDANCE

16.2.1. This chapter has been prepared with consideration given to the following legislation, policy and guidance:

**Legislation**

- The Town and Country Planning (Environment Impact Assessment) Regulations 2017 (the 'EIA Regulations 2017') (**Ref 16.1**):
    - Schedule 4, Paragraph 5(e) states that an ES should include a description of the likely significant effects of the Proposed Development on the environment resulting from 'the cumulation of effects with other existing and / or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources'; and
    - Part 1, Paragraph 2 (e) refers to the need to assess 'the interaction between factors referred to in sub-paragraphs (a) to (d)' which includes: population and human health, biodiversity (with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC), land, soil, water, air and climate, material assets, cultural heritage and the landscape.

**Policy**

- The National Planning Policy Framework (2024) (NPPF) (**Ref 16.2**)
- Horsham District Local Plan 2023-2040 (**Ref 16.3**)

**Guidance**

- Institute of Sustainability & Environmental Professionals (ISEP) [formerly IEMA] Demystifying Cumulative Effects (2020) (**Ref 16.4**)
- Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment (2024) (**Ref 16.5**)

## 16.3. SCOPE AND METHODOLOGY FOR ASSESSMENT

### METHOD OF BASELINE DATA COLLECTION

16.3.1. The entirety of the cumulative effects assessment is desk study based. For the in-combination effects assessment, data and information have been collected from publicly available resources as well as consultation requests from the following relevant councils:

- Horsham District Council (HDC)
- West Sussex County Council (WSCC)
- Surrey County Council (SCC)

16.3.2. The effects interaction assessment is based upon a review of **Chapters 6-15** of this ES.

### METHODOLOGY

#### In-Combination Effects

16.3.3. The approach to the assessment of in-combination effects considers the deviation from the baseline conditions at common sensitive receptors due to changes brought about as a result of the Proposed Development in combination with one or more other cumulative developments. The assessment is based upon residual effects only (considered to be effects of minor adverse or greater significance i.e. excluding negligible effects).

16.3.4. At present, there is no widely accepted methodology or best practice for the assessment of cumulative effects, although as stated in **Section 16.2** of this chapter, there are guidance documents available. The approach adopted in the cumulative effects assessment is based on the Planning Inspectorate's Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment, updated in 2025, (hereafter referred to as the 'PINS Guidance'), the types of receptors being assessed and the nature of the Proposed Development.

16.3.5. The PINS Guidance sets out a four-stage approach to the assessment of cumulative effects:

- Stage 1: Establishing the long list of other existing and, or extant approved development – This stage includes establishing a Zone of Influence (ZOI) for the Proposed Development that is derived from the Study Areas in **Chapters 6-15** of this ES. A long list of cumulative developments is then prepared by carrying out a desk-based study of the planning registers of the local planning authorities within the ZOI. The long list is based upon a pre-defined criteria which, for the purpose of this ES, has been further refined since the scoping stage and established using professional judgement based on previous experience of cumulative effects assessments and the EIA Regulations 2017 Schedule 2 criteria and thresholds:
    - Any EIA project (regardless of the parameters set below);
    - Is a residential development that comprises 50+ dwellings;
    - Is an employment, industrial and/or commercial development that comprise a minimum of 1,000m$^2$ of commercial space.
    - Any energy, pipeline, road or railway development with a site area 1ha or above
    - Developments registered from 01/09/2020
- Stage 2: Establishing a short list of other existing and, or approved development – The potential for significant in-combination effects of the developments in the long list are then assessed

against the following criteria in proportion with the scale and nature of the Proposed Development:

  - Is there a concurrent construction or operation phase between the other 'cumulative development' and the Proposed Development;
  - Is there potential that the 'cumulative development' affects some of the same sensitive receptors as the Proposed Development;
  - Do the scale and nature of the 'cumulative development' give rise to potential significant interaction with the Proposed Development;

- Stage 3: Information gathering – Information regarding the short listed 'other developments' is gathered to inform the assessment.
- Stage 4: Assessment - A review of the 'cumulative developments' is undertaken to assess whether cumulative effects may arise. This assessment is based upon the residual effects identified in the technical assessments and the available environmental information for the 'other developments'. Any mitigation, enhancement or monitoring measures are identified in relation to any significant adverse cumulative effect.

16.3.6. The in-combination effects assessment is an iterative process and therefore, these stages can be revisited during the assessment if new information becomes available. For example, based upon the outcome of the technical assessments presented in **Chapters 6-15** of this ES, certain cumulative developments included in the short list on the basis of predicted cumulative effects on the same receptors may not be taken forward for assessment at stage 4. Where technical topics identified Neutral (Not Significant) or Negligible effects (Not Significant) or the study areas of the individual receptors being assessed are smaller than the distance between the Proposed Development and the cumulative development, they have not been assessed at 'stage 4 – assessment' because in-combination effects are unlikely.

**Effect Interactions**

16.3.7. The approach to the assessment of interactions of environmental effect (effect interactions) considers the changes in baseline conditions at common sensitive receptors (i.e. those receptors that have been identified as experiencing likely residual effects by more than one technical topic) due to the Proposed Development. The assessment is based upon residual effects only (considered to be effects of minor adverse or greater significance i.e. excluding negligible effects). The study area for the assessment is informed by the study areas for the individual topic assessments as set out in **Chapters 6-15** of this ES.

16.3.8. The assessment of effect interactions has been undertaken in three steps:

- Step A: Screening of Sensitive Receptors – A screening of sensitive receptors (as identified in each chapter) is undertaken to determine whether any receptors have the potential to be exposed to more than one type of residual effect (within an individual technical topic assessment and/or across multiple technical topic assessments) during either the construction or operation phases of the Proposed Development. These sensitive receptors are termed 'Common Receptors' and are taken forward to Stage 2 of the assessment.
- Step B: Determine Residual Effects of Common Receptor – For receptors or resources identified in Step A, the significance of the residual effect from each relevant technical chapter is identified. Those that have two or more residual effects that are Minor (Not Significant) and above are taken forward to Stage C of the assessment.

- Step C: Assessment of effects – An assessment of the overall significance of the effect interactions on common receptors is undertaken. The assessment is based on information provided within the topic assessments as well as professional judgement. The assessment considers the nature of the residual effects acting on the identified common receptors and determines whether or not these residual effects, acting together, significantly magnify the overall residual effects on specific receptors. Receptors are assessed at a spatial scale consistent with that of the chapters.

### SIGNIFICANCE CRITERIA

16.3.9. The significance criteria classifications for cumulative effects are outlined in **Table 16-1**. Moderate and Major effects are considered to be significant. For consistency, a Not Significant effect has also been recorded where a magnification of effect will not result in a change to the level of significance recorded in the individual topic assessments.

16.3.10. Where a 'Slight' Adverse effect has been identified in the topic assessments, this has been identified as 'Minor' in this assessment for consistency.

**Table 16-1 – Cumulative Effects Significance Criteria**

| Significance Category | Definition of Effect |
|---|---|
| Major | Adverse or beneficial effects recognised to be very important considerations as significant magnification of effects on receptors is likely to occur. |
| Moderate | Adverse or beneficial effects that are unlikely to become issues, but where future work may be needed to improve on current performance as significant magnification of effects on receptor is likely to occur if such work is not undertaken. |
| Minor | Adverse or beneficial effects that are locally significant and would be unlikely to lead to a significant magnification of effects on a receptor. |

## 16.4. CONSULTATION

16.4.1. Consultation on the scope of the Cumulative Effects Assessment has taken place with the relevant statutory authorities through the EIA Scoping Report (**Ref 16.6**), the Scoping Opinion (see **Volume 2**, **Appendix 1.2**) and engagement with Horsham District Council (HDC), the outcomes of which are set out in **Table 16-2**.

**Table 16-2 – Cumulative Effects Assessment Consultation Outcomes**

| Body/Organisation | Individual(s) at body/organisation | Dates | Summary and outcomes of discussions |
|---|---|---|---|
| HDC | N/A | December 2025 | In the EIA Scoping Opinion, HDC accepted the proposed approach to assessing cumulative effects outlined in the EIA Scoping Report. HDC suggested several developments are reviewed to determine if they should be included in the long list or assessed as part of baseline conditions. These suggested developments have been reviewed and are included within the long list. |
| | N/A | February 2026 | A finalised long list of Cumulative Developments was shared with HDC via email in February 2026. HDC responded on 18 February suggesting a further three developments for inclusion in the long list which have been assessed to determine if they should be included in the long list and the short list. |

## 16.5. BASELINE CONDITIONS

16.5.1. The assessment of cumulative effects does not include a bespoke analysis of baseline conditions; this information is instead drawn from the individual technical chapters of this ES.

## 16.6. ASSESSMENT OF CUMULATIVE EFFECTS

### IN-COMBINATION EFFECTS

#### Stage 1

16.6.1. The first stage of the in-combination effects assessment is to determine the search area for preparing the long list, which is established by considering the Study Area of each technical chapter

in this ES. The search area is the largest ZOI of the technical topics, and has therefore been established as 10km.

16.6.2. Traffic and Transport and Greenhouse Gas Emissions have not been considered in this assessment because in-combination effects are assessed inherently in their individual topic chapters. The impacts of GHG emissions are global and cumulative in nature, with every tonne of GHGs contributing to impacts on natural and human systems. GHG emissions result in the same global effects wherever and whenever they occur. It is the cumulative effect of all GHG-emitting human activities that cause climate change; therefore, for the Proposed Development, the quantification of emissions in the assessment of likely significant effects presented in **Volume 1**, **Chapter 15: Greenhouse Gases** inherently assesses the in-combination impacts, which includes comparing the GHG emissions against UK carbon budgets. Further information on the methodology in relation to transport is presented in **Section 12.3** in **Volume 1, Chapter 12: Traffic and Transport**.

16.6.3. A total of 22 cumulative developments were included in the long list at stage 1 of the cumulative effect assessment (see **Appendix 16.1 Long List and Short List of Cumulative Developments (Volume II)**).

**Stage 2**

**16.6.4.** Using the criteria outlined in **Section 16.3,** 11 cumulative developments were brought forward to Stage 2 of the cumulative effects assessment. Justification for why the other long list cumulative developments were excluded from the short list is provided in **Table 1** of **Appendix 16.1**. The short listed cumulative developments are presented in **Table 2** in **Appendix 16.1** and are shown **Figure 16.1 Short List of Cumulative Developments.**

**Stage 3**

16.6.1. At this stage, information is gathered to inform the assessment. This information has included, where available, reported environmental effects, design, location, construction programme (including demolition), and operational activities.

**Stage 4**

16.6.2. Where relevant, in-combination effects have been considered within certain topic chapters, however this section provides a summarised version of their conclusions.

**Air Quality**

16.6.3. In relation to construction works, Institute of Air Quality Management guidance state that potential impacts are limited to a zone within 250m of the site boundary and/or within 50m of roads up to 250m from the site entrance points. Cumulative impacts from construction dust would be mitigated as the contractors for the Development and any committed developments would be required to manage construction phase emissions. Therefore, the conclusions of the air quality assessment in relation to amenity (dust impacts) and human health, hold for effects arising from the Proposed Development, both alone and cumulatively. With appropriate mitigation for construction dust impacts, all effects are negligible and not significant, therefore no cumulative effect is anticipated.

16.6.4. In relation to emissions from road traffic during the operational phases, the air quality assessment presented in this Chapter is inherently a cumulative assessment as the traffic data includes committed developments. All impacts are negligible and therefore no cumulative effect is anticipated.

### Cultural Heritage

16.6.5. Three short listed developments have been considered as having the potential for cumulative effects from a cultural heritage perspective. These are:

- the proposed two storey extension to the existing sports centre (LPA ref. DC/21/1524, short list ID: 1),
- outline planning application for a Sports and Leisure Hub (LPA ref. DC/23/1178, short list ID8) and
- a 214 dwelling housing development (LPA ref. DC/24/0772, short list ID10).

16.6.6. There are likely to be minimal cumulative impacts during the construction and operation phases on cultural heritage assets when considering the Proposed Development with DC/21/1524, resulting in a **Minor Adverse (not significant)** effect. This is due to the two developments being screened from view by intervening roads, built form and trees. Similarly, there are likely to be minimal cumulative heritage impacts in relation to DC/23/1178 given the Proposed Development and this cumulative development are screened from view from one another by intervening built form and the local road network, resulting in a **Minor Adverse (not significant)** effect.

16.6.7. Development DC/24/0772, located south of the Proposed Development is likely to be screened by rising land south of the Site, the intervening Downs Link and tree belts, therefore no cumulative effects are anticipated.

### Ecology

16.6.8. Consideration has been given to the potential for cumulative effects to arise on the ecology of the Site and its surrounds in relation to cumulative developments in the wider area.

16.6.9. In consideration of the short listed cumulative developments provided in **Table 2** of **Appendix 16.1**, it would not be expected that significant cumulative effects would arise in combination on ecological receptors relevant to the Site, subject to the employment of standard avoidance and mitigation measures in accordance with the 2006 NERC Act, planning policy, guidance and nature conservation legislation. It is expected that each proposal is required to include sufficient measures to ensure that there would be no adverse effects on features of nature conservation interest. Effects on ecological receptors would therefore be expected to be negligible.

### Landscape and Visual

16.6.10. The assessment of cumulative landscape and visual effects considers three committed developments alongside the Proposed Development, as summarised below:

- Consented - Land West of Worthing Road Southwater West Sussex (Short List ID 10 DC/14/0590/DC/24/0772). Residential development of up to 540 dwellings and 54 retirement living apartments, associated vehicular, cycle and pedestrian access, drainage and landscape works.
- Consented - Land to the West of Mill Straight Worthing Road Southwater West Sussex (Long List ID 19 DC/14/2582) Residential development of up to 193 No. dwellings (including affordable housing) and associated works.
- Consented - Land East of Turners Close and East and South of Millfield Southwater West Sussex (Long List ID 20 DC/11/0657). Erection of 131 residential dwellings (38 x 2-bed, 53 x 3-bed and 40 x 4-bed) with associated access, parking, landscaping infrastructure.

16.6.11. From a Cumulative Effects perspective, the removal of the consented Land to the West of Mill Straight Worthing Road Southwater West Sussex, and Land East of Turners Close and East and South of Millfield Southwater West Sussex, should be considered as these are already constructed, and are part of the Long List assessments. Further information on the inclusion of these for Landscape and Visual effects can be found in **Volume 1, Chapter 9: Landscape and Visual**, of the ES.

Construction

16.6.12. No cumulative landscape effect above minor (not significant) during the construction phase is predicted for National Character Area (NCA) 121 Low Weald, West Sussex Landscape Character Area H1 Central Low Weald, and Horsham District Landscape Character Area H1 Southwater and Christ's Hospital Farmlands and G4 Southwater & Shipley Wooded Farmland due to the magnitude of change being considered low for all three landscape areas. Collectively, a permanent change to the greenfield land use element and character of the sites of the Proposed Development and cumulative developments is predicted to be **Moderate adverse (significant)**.

16.6.13. During the construction phase, visual effects are expected to range from **major to moderate adverse (significant)** on certain visual receptors identified in **Volume 1, Chapter 9: Landscape and Visual**, specifically receptors using Public Right of Way (PRoW) the Downs Link (bridleway SOW-3568), PRoW SOW-1655, PRoW SOW-1658, SOW-1656; transient receptors of Church Lane, Worthing Road and the roundabout junction with Chessall Avenue, residents immediately adjacent to the Site and residents of Grade II Listed College Farmhouse, when considered alongside cumulative development ref. DC/14/0590, short list ID10. A neutral effect (not significant) is predicted for all remaining visual receptors and in-combination with the other cumulative developments (DC/14/2582 and DC/11/0657) considered.

Operation

16.6.14. During the operational phase, the magnitude of change is predicted to be low at national (National Character Area (NCA) 121 Low Weald) and county (West Sussex Landscape Character Area H1 Central Low Weald) levels therefore a **minor (not significant) adverse effect** is likely. At local (Horsham District Landscape Character Area H1 Southwater and Christ's Hospital Farmlands and G4 Southwater & Shipley Wooded Farmlands) and site levels, the magnitude of change is predicted to be medium and will result in a permanent change to greenfield land use element and character of each site, therefore a **moderate adverse (significant)** effect is predicted.

16.6.15. In addition to the range of visual receptors identified in the visual assessment for the Proposed Development where effects range from minor to moderate, the cumulative development (DC/14/0590) would additionally be apparent from viewpoints P2, Q, T, 14,15, 17, 16,18 and 19 (further details provided in **Volume 1, Chapter 9: Landscape and Visual**), and from where views of the Site are truncated. In combination effects are judged to range from **moderate - major (significant) adverse** from these receptors.

16.6.16. Due to intervening vegetation and landform, the cumulative developments and the Proposed Development would not be apparent from those visual receptors where views are identified as being truncated within the wider study area. The cumulative effects on these remaining truncated views are judged to be neutral (not significant).

### Noise and Vibration

Construction Noise and Vibration

16.6.17. Noise and vibration associated with construction activities will usually only cause significant adverse effects at receptors immediately surrounding a site. Consequently, unless there is another construction site a similar distance from the same receptors likely to be affected by the proposed development, then there is unlikely to be any significant cumulative effects.

16.6.18. Of the cumulative developments identified, there are 2 within 300m (the area within which construction impacts are likely to occur) of the Proposed Development, which are DC/23/1178 (short list ID8) and DC/24/077 (original outline planning application: DC/14/0590, short list ID10).

16.6.19. Should these cumulative developments and the Proposed Development be constructed simultaneously there is the possibility of significant cumulative effects at the shared receptors, particularly dwellings along Worthing Road to the north of the Proposed Development and west of Bonfire Hill.

16.6.20. Mitigation measures to minimise the potential disturbance at nearby sensitive receptors during the construction phase of the Proposed Development are presented in **Volume 1, Chapter 10 Noise and Vibration**. These measures include (but are not limited to) best practicable means and keeping residents well informed of upcoming works.

Operational Road Traffic Noise

16.6.21. It is understood that the traffic data used for the assessment incorporate growth based on relevant cumulative developments (as set out within the Transport Assessment). The road traffic noise assessments within this chapter are therefore cumulative in nature. Consequently, it is considered that additional mitigation measures are not required.

Site Suitability

16.6.22. An assessment of the suitability of the proposed development for residential uses, including mitigation measures required to achieve the internal noise criteria, has been presented in **Volume 2, Appendix 10.1 of the Noise and Vibration Chapter**. This assessment has been based on traffic data which included vehicles associated with the cumulative developments. Consequently, it is not considered necessary or appropriate to include an additional assessment with the cumulative developments allocations added, and does not alter the conclusion that, from a noise and vibration perspective, the Site is suitable for the proposed uses.

### Socio-economics

16.6.23. A number of cumulative developments have been identified as being relevant to this assessment. All relevant developments presented in **Table 2** of **Appendix 16.1** have been taken into account in the assessment of cumulative effects in relation to socio-economics below.

*Construction*

16.6.24. The construction of the Proposed Development along with the cumulative developments identified will generate additional construction related employment. The scale of the construction employment generated cannot be readily quantified on the basis of the information available for each cumulative development as this build cost information is typically commercially sensitive. Two cumulative developments (Short List ID: 8 LPA Ref. DC/23/1178 and Short List ID: 2 LPA Ref. DC/19/1897) are

set to produce 1,760 construction jobs and £1.5m construction worker spend over the seven-year construction period and 67 construction jobs per annum over four years (direct and indirect FTE jobs). The cumulative effects of the cumulative developments in combination with the Proposed Development are likely to have a direct, temporary, long-term **minor beneficial (not significant)** effect on construction employment due to the potential for the cumulative developments to generate a small amount of construction employment.

*Operation*

16.6.25. The cumulative developments and the Proposed Development will provide new employment floorspace including retail and community space. One cumulative development (Short List ID: 2 LPA Ref. DC/19/1897) is expected to produce up to 33 operational jobs (Direct and Indirect FTE Jobs). Another cumulative development (Short List ID: 8 LPA Ref. DC/23/1178) has stated 105-170 new operational jobs would be provided. It is estimated these developments alongside the others listed would generate a considerable number of gross direct jobs once complete. As a result, the cumulative developments and the Proposed Development are likely to have a direct, permanent, long-term **minor beneficial (not significant) cumulative effect** on the West Sussex economy due to the potential for the cumulative developments and the Proposed Development to generate a range of operational employment opportunities.

16.6.26. The cumulative developments would bring a substantial number of new residents into the Horsham District who would spend a large proportion of their income in West Sussex. One cumulative development (Short List ID: 2 LPA Ref. DC/19/1897) estimates there will be £144,300 p.a. of additional retail expenditure associated with the release of under occupied homes and habitation from the new incoming residents. Another cumulative development (Short List ID: 8 LPA Ref. DC/23/1178) predicts £53-£84k new worker spend per annum in the local area, £2.2m-£3.7m new economic activity per annum and residential spend of £7m per annum in the Crawley travel-to-work area (TTWA.). The additional spending of the residents residing at the cumulative developments and the Proposed Development is likely to have a direct, permanent, long-term **minor beneficial (not significant) cumulative effect** on the West Sussex economy due to the potential for additional spending which will take place by new residents.

16.6.27. If all the cumulative residential developments (Short List ID: 9 LPA Ref. DC/20/0695, Short List ID: 10 LPA Ref. DC/24/0772, Short List ID: 11 LPA Ref. DC/16/1677, Short List ID: 7 LPA Ref. DC/25/1910, Short List ID: 5 LPA Ref. DC/24/1699, Short List ID: 4 LPA Ref. DC/20/2607, Short List ID: 3 LPA Ref. DC/25/1658 and Short List ID: 2 LPA Ref. DC/19/1897) and the Proposed Development are built, a number of new residential units are expected to come forward. This provision will increase the availability of market housing within the Horsham District. The units will be a range of sizes and types of tenures, offering choice to new residents in line with local policy. The delivery of new residential development as a result of the cumulative developments and the Proposed Development is likely to have a direct, permanent, long-term **moderate beneficial (significant)** cumulative effect on market housing provision within the Horsham District.

16.6.28. Policies from Horsham District Council require developments to commit a minimum affordable housing offering. Two cumulative developments (Short List ID: 4 LPA Ref. DC/20/2607 and Short List ID: 9 LPA Ref. DC/20/0695) have promised 35% fully integrated affordable housing (around 29 and 35 dwellings subsequently). One cumulative development (Short List ID: 3 LPA Ref. DC/25/1658) is delivering 40% affordable housing with a tenure compliant split. Additionally, one cumulative development (Short List ID: 5 LPA Ref. DC/24/1699) is delivering 45% affordable

housing with 46 units split across 1 bed flats, 2 bed houses, 3 bed houses and 4 bed houses. The delivery of new affordable housing a result of the cumulative developments and the Proposed Development is likely to have a direct, permanent, long-term **moderate beneficial (significant)** cumulative effect on market affordable housing provision within the Horsham District.

16.6.29. Residents within the forthcoming residential cumulative developments (Short List ID: 9 LPA Ref. DC/20/0695, Short List ID: 10 LPA Ref. DC/24/0772, Short List ID: 11 LPA Ref. DC/16/1677, Short List ID: 7 LPA Ref. DC/25/1910, Short List ID: 5 LPA Ref. DC/24/1699, Short List ID: 4 LPA Ref. DC/20/2607, Short List ID: 3 LPA Ref. DC/25/1658 and Short List ID: 2 LPA Ref. DC/19/1897) in the surrounding area are likely to place additional demand on existing social infrastructure. In addition to the current surplus of primary school places locally, the Proposed Development is expected to provide a new primary school. Two of the cumulative developments (LPA Ref. DC/25/1658 and DC/20/0695) have identified primary schools within the same catchment area as the Proposed Development (Junior Academy and Castlewood Primary School). Therefore, the Proposed Development will relieve the demand on these schools with the provision of an additional primary school. It is assessed that the cumulative developments and the Proposed Development are likely to have a direct, permanent, long-term **negligible (not significant)** cumulative effect on primary education provision.

16.6.30. Given the scale of the surrounding cumulative developments, there may be pressure on secondary school demand. One of the cumulative developments (Short List ID: 9 LPA Ref. DC/20/0695) is within the same catchment as the Proposed Development (Tanbridge House School in Horsham). However, there are additional schools included within the catchment of the Proposed Development. In addition, the Proposed Development is expected to provide a new secondary school with provision for up to 1,200 pupils. This will serve the new resident population at the Proposed Development and also increase capacity within the locality to serve demand from the wider district. It is assessed that the cumulative developments and the Proposed Development are likely to have a direct, permanent, long-term **negligible (not significant)** cumulative effect on secondary education provision.

16.6.31. The Proposed Development and a number of the cumulative developments (Short List ID: 2 LPA Ref. DC/19/1897, Short List ID: 3 LPA Ref. DC/25/1658, Short List ID: 5 LPA Ref. DC/24/1699, Short List ID: 7 LPA Ref. DC/25/1910 and Short List ID: 11 LPA Ref. DC/16/1677) will provide new private and public open or landscaped space and play space for use by residents and employees at the developments as well as members of the public. While the increase in residential units arising from the cumulative developments will increase demand for open and play space and put pressure on existing provision, it is assumed that the cumulative developments will be policy compliant and include additional open and play space that will help meet their own demands, and potentially contribute towards meeting the demand from other development schemes. Therefore, it is assessed that the cumulative developments and the Proposed Development are likely to have a direct, permanent, long-term **minor beneficial (not significant)** cumulative effect on open and play space provision.

### Water Resources, Flood Risk and Drainage

16.6.32. When considering the cumulative impact of the short list of cumulative developments outlined in **Appendix 16.1**, each development has their own mitigating factors to ensure there would be no cumulative effects that could impact the drainage or flood risk on the Site of the Proposed Development. It is not likely that, given the proposed usage on each of the cumulative developments

in combination with the Proposed Development, these cumulatively would contribute to a greater risk of flood risk issues either on-site or off it due to the planning requirement on each of the proposed development to not increase flood risk.

16.6.33. The most likely cumulative impact would be on the surface water runoff from the Site due to the increase in impermeable area from the cumulative developments. However, it is anticipated that this would be mitigated by the SuDS measures being employed on these sites as part of the outline drainage strategy.

16.6.34. In the same vein as flood risk, contamination of water resources would not be adversely impacted by the identified cumulative developments as appropriate pollution control measures would be expected to be provided on each of these cumulative developments in line with local and national planning policy and guidance.

16.6.35. The Proposed Development and cumulative developments are assessed to have either a neutral or potentially a permanent, long-term, minor beneficial effect on the contamination of water resources within the study area, by removal agricultural activities, particularly nutrient runoff, soil erosion, and pesticide application, which are leading causes of water pollution.

16.6.36. The surrounding Southern Water foul sewer networks and treatment works have a limited capacity before additional improvement works are undertaken by Southern Water. Each other cumulative development is anticipated to require a connection to the foul water network during operation (and potentially construction), as does the Proposed Development. Capacity for each of the developments will be agreed and catered for by Southern Water separately. Additional works may then be required to enable connections to the network.

### Ground Conditions

Cumulative effects from other future developments are likely to be limited because ground conditions are site-specific and controlled through planning conditions. Given the underlying geology, groundwater effects are likely to be localised and other future developments are unlikely to influence groundwater levels on the Site. There is a low risk of other future developments mobilising unknown sources of contamination that fall outside of the search area for this development, which could migrate onto the Site.

## EFFECT INTERACTIONS

### Step A

16.6.37. The first step of the effects interaction assessment is to identify any common receptors in this ES. The review of technical chapters identified of the following groups of common receptors which may experience effects and are presented in **Table 16-3**.

**Table 16-3 – Common Receptors identified in the ES**

| Common Receptor | Environmental Factors |
|---|---|
| Local Population, including demolition and construction workers, existing and future residential properties, future Site users, economic receptors (at local and regional level), community receptors (including schools). | • Noise and Vibration (construction and operation)<br>• Landscape and Visual (construction and operation) |

| Common Receptor | Environmental Factors |
|---|---|
| | • Socio-economics (construction and operation) |
| Construction workers, including all personnel working on the Site during the construction of the Proposed Development | • Noise and Vibration (construction)<br>• Water Resources, Flood Risk and Drainage (construction)<br>• |
| Transport Network, including motorised and non-motorised users of the local roads, Public Rights of Way (PRoW) and non-designated public routes (including vehicle drivers, public transport users, pedestrians and cyclists). | • Traffic and Transport (operation)<br>• Landscape and Visual (operation) |

**Step B**

16.6.38. **Tables 16-4** and **16-5** comprise summary matrices for the construction and operational phases of the Proposed Development showing the significance of residual effects (minor, moderate and major adverse only) on the common receptors for environmental topics, following the implementation of the required mitigation measures set out in technical **chapters 6-15**. This enables a qualitative assessment of the interactions of residual effects outlining the overall significance to the identified common sensitive receptors. The results of the assessment of effect interactions are subsequently shown in **Tables 16-6** and **16-7.**

16.6.39. For the purpose of this assessment, residual effects that have been identified in **chapters 6-15** that do not affect the common sensitive receptors identified have not been presented below, as no effects interactions are anticipated.

**Table 16-4 – Residual Effects on Common Receptors - Construction**

| Common Receptor | Landscape and Visual | Noise and Vibration | Water Environment and Flood Risk | Socio-economics |
|---|---|---|---|---|
| Residents immediately adjacent to the Site | Moderate Adverse (significant) | Up to Moderate / Major Adverse (significant) (construction noise)<br>Minor Adverse (not significant) (construction vibration) | - | Minor Beneficial (not significant) |
| Construction workers at the Site | - | Up to - Moderate/Major Adverse (significant) | Minor Adverse (not significant) (flood risk) | - |

| Common Receptor | Landscape and Visual | Noise and Vibration | Water Environment and Flood Risk | Socio-economics |
|---|---|---|---|---|
| | | (construction noise)<br>Minor Adverse (not significant) (construction vibration) | | |

**Table 16-5 – Residual Effects on Common Receptors - Operational**

| Common Receptor | Landscape and Visual | Noise and Vibration | Traffic and Transport | Socio-economics |
|---|---|---|---|---|
| Transient users (including vehicles and PROW) of Worthing Road, Chessall Avenue and the roundabout junction to the A24 from Worthing Road (Links 3A, 2C, 2B and 2A in **Volume 1, Chapter 12: Traffic and Transport**). | Moderate Adverse (significant) | - | Moderate adverse (significant) | - |
| Residents immediately adjacent to the Site | Moderate Adverse (significant) | Moderate Adverse (significant) | - | Minor Beneficial (not significant) |

**Step C**

16.6.40. **Table 16-6** and **Table 16-7** present the effect interactions assessment for the construction phase and the operation phase of the Proposed Development respectively.

**Table 16-6 – Effect Interactions Assessment - Construction**

| Common Receptor | Assessment | Mitigation |
|---|---|---|
| Residents immediately adjacent to the Site | During the construction phase, residents adjacent to the Site will experience a combination of visual amenity (Moderate Adverse), and noise and vibration effects (worst case Major/Moderate Adverse; average case Negligible/Minor). Considering the combination of these effects, it is likely that those residents will experience periods of notable noise and vibration impacts, and a temporary deterioration in visual amenity as the Site changes from greenfield land to a construction site. At average times, it is expected that there will not be a considerable magnification of impacts to result in a change to the level of significance reported in the individual topic assessments, therefore a temporary, short-term **Moderate Adverse (significant)** combined effect is predicted. Similarly, while there may be short periods during which noise levels are significant, it is not expected that there would be a magnification of impacts resulting in a change to the level of significance already reported in the individual topic assessments due to the implementation of a Construction Environmental Management Plan. Therefore, during a worst case scenario, a temporary, short-term **Moderate Adverse (Significant)** combined effect is predicted. | No additional mitigation beyond the measures identified in the individual technical assessments is proposed. It should be noted that the assessment presented in **Volume 1, Chapter 10 Noise and Vibration,** and used here, is a worst case. |
| Construction workers at the Site | During the construction phase, construction works are likely to experience noise and vibration disturbance, and are potentially at risk of effects resulting from flooding. Provided construction workers adhere to the mitigation measures set out in the individual topic assessments, it is unlikely that there will be a magnification of impacts resulting in a change to the level of significance reported in **Volume 1, Chapter 10: Noise and Vibration**, and **Volume 1, Chapter 13: Water Resources, Drainage and Flood Risk**. Therefore, a **Minor Adverse (Not Significant)** combined effect is predicted. | No additional mitigation beyond the measures identified in the individual technical assessments is proposed. |

**Table 16-7 - Effect Interactions Assessment - Operation**

| Common Receptor | Assessment | Mitigation |
|---|---|---|
| Transient users of Worthing Road, Chessall Avenue and the roundabout junction to the A24 from Worthing Road | During operation, transient users of Worthing Road, Chessall Avenue and the roundabout junction to the A24 from Worthing Road are likely to experience a Moderate Adverse (Significant) visual effect due to the significant change in the Site from its existing baseline (greenfield land). These users may also experience a Negligible Beneficial to Moderate Adverse effect due to amenity, fear and intimidation impacts caused by an increased volume of traffic associated with the Proposed Development as described in **Volume 1, Chapter 12: Traffic and Transport**.<br><br>At worst case, some of these receptors may experience a magnification of adverse impacts, however it is not considered to change to such an extent that it differs from the level of significance reported in the individual topic assessments. Therefore, a **Moderate Adverse (significant)** combined effect is predicted. | No additional mitigation beyond the measures identified in the individual technical assessments is proposed. |
| Residents immediately adjacent to the Site | During operation, residents adjacent to the Site will experience a combination of visual amenity (Moderate Adverse), and noise effects associated with development generated road traffic (Moderate Adverse). Considering the combination of these effects, it is likely that those residents will experience periods of notable noise and vibration impacts, and a permanent change in visual amenity as the Site changes from greenfield land to a residential development. However, with the implementation of traffic mitigation measures, there is unlikely to be a magnification of impacts. Therefore, a **Moderate Adverse (Significant)** combined effect is predicted. | No additional mitigation beyond the measures identified in the individual technical assessments is proposed. |

## 16.7. DIFFICULTIES AND UNCERTAINTIES

16.7.1. The assessment of effect interactions and in-combination effects resulting from the Proposed Development have focused on the residual effects from the construction and operational phase following the implementation of mitigation measures. There is an assumption that mitigation measures identified in the respective technical **Chapters 6 to 15** have been incorporated or adopted to mitigate any adverse effects resulting from the Proposed Development.

16.7.2. The assessment of in-combination effects has been limited to publicly available information obtained from the relevant planning applications on the HDC and WSCC planning portal. For some of the identified cumulative developments, relevant information for this assessment has not been available. As a result, some assessment considerations have been based upon assumptions and professional judgement and some statements made would rely on the review of mitigation measures proposed at the cumulative developments.

## 16.8. SUMMARY

16.8.1. **Tables 16-8** and **16-9** present a summary of the cumulative effects (minor and above) identified in this assessment.

**Table 16-8 – Summary of in-combination effects**

| Cumulative development | Topic | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Construction Phase** | | | | | |
| Short List ID: 1 (LPA ref. DC/21/1524): proposed two storey extension to the existing sports centre | Cultural Heritage: built heritage assets | **Minor adverse (not significant)** | No additional mitigation beyond the measures identified in the individual technical assessments is proposed | **Minor adverse (not significant)** | No monitoring is proposed. |
| Short List ID: 2 (LPA Ref. DC/19/1897) outline planning application for a care retirement community | Socio-economics: employment | **Minor beneficial (not significant)** | No mitigation required. | **Minor beneficial (not significant)** | No monitoring is proposed. |
| Short List ID: 8 (LPA ref. DC/23/1178): outline planning application for a Sports and Leisure Hub | Cultural Heritage: built heritage assets | **Minor adverse (not significant)** | No additional mitigation beyond the measures identified in the individual technical assessments is proposed | **Minor adverse (not significant)** | No monitoring is proposed. |
| | Noise and vibration: residents | **Moderate adverse (significant)** | No additional mitigation beyond the measures | **Moderate adverse (significant)** | No monitoring is proposed. |

| Cumulative development | Topic | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | immediately adjacent to site | | identified in the individual technical assessments is proposed | | |
| | Socio-economics: employment | **Minor beneficial (not significant)** | No mitigation required. | **Minor beneficial (not significant)** | No monitoring is proposed. |
| Short List ID: 10 (LPA ref. DC/14/0590/DC/24/0772): Residential development of up to 540 dwellings and 54 retirement living apartments, associated vehicular, cycle and pedestrian access, drainage and landscape works. | Landscape: NCA 121 Low Weald, West Sussex Landscape Character Area H1 Central Low Weald, and Horsham District Landscape Character Area H1 Southwater and Christ's Hospital Farmlands and G4 Southwater & Shipley Wooded Farmland | **Minor adverse (not significant)** | No additional mitigation beyond the measures identified in the individual technical assessments is proposed | **Minor adverse (not significant)** | No monitoring is proposed. |
| | Landscape: site level | **Moderate adverse (significant)** | No additional mitigation beyond the measures identified in the individual technical | **Moderate adverse (significant)** | No monitoring is proposed. |

| Cumulative development | Topic | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | | | assessments is proposed | | |
| | Visual: receptors using Public Right of Way (PRoW) the Downs Link (bridleway SOW-3568), PRoW SOW-1655, PRoW SOW-1658, SOW-1656; transient receptors of Church Lane, Worthing Road and the roundabout junction with Chessall Avenue, residents immediately adjacent to the Site and residents of Grade II Listed College Farmhouse | **Moderate to major adverse (significant)** | No additional mitigation beyond the measures identified in the individual technical assessments is proposed | **Moderate to major adverse (significant)** | No monitoring is proposed. |
| | Noise and vibration: residents | **Moderate adverse (significant)** | No additional mitigation beyond the measures | **Moderate adverse (significant)** | No monitoring is proposed. |

| Cumulative development | Topic | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | immediately adjacent to site | | identified in the individual technical assessments is proposed | | |
| Long List ID: 19 (LPA ref. DC/14/2582): Residential development of up to 193 No. dwellings (including affordable housing) and associated works (Outline) | Landscape: NCA 121 Low Weald, West Sussex Landscape Character Area H1 Central Low Weald, and Horsham District Landscape Character Area H1 Southwater and Christ's Hospital Farmlands and G4 Southwater & Shipley Wooded Farmland | **Minor adverse (not significant)** | No additional mitigation beyond the measures identified in the individual technical assessments is proposed | **Minor adverse (not significant)** | No monitoring is proposed. |
| | Landscape: site level | **Moderate adverse (significant)** | No additional mitigation beyond the measures identified in the individual technical assessments is proposed | **Moderate adverse (significant)** | No monitoring is proposed. |

| Cumulative development | Topic | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Long List ID: 20 (LPA ref. DC/11/0657): development of 131 residential dwellings with associated infrastructure | Landscape: NCA 121 Low Weald, West Sussex Landscape Character Area H1 Central Low Weald, and Horsham District Landscape Character Area H1 Southwater and Christ's Hospital Farmlands and G4 Southwater & Shipley Wooded Farmland | **Minor adverse (not significant)** | No additional mitigation beyond the measures identified in the individual technical assessments is proposed | **Minor adverse (not significant)** | No monitoring is proposed. |
| | Landscape: site level | **Moderate adverse (significant)** | No additional mitigation beyond the measures identified in the individual technical assessments is proposed | **Moderate adverse (significant)** | No monitoring is proposed. |
| **Operational Phase** | | | | | |
| Short List ID: 1 (LPA ref. DC/21/1524): proposed two | Cultural Heritage: built heritage assets | **Minor adverse (not significant)** | No additional mitigation beyond the | **Minor adverse (not significant)** | No monitoring is proposed. |

| Cumulative development | Topic | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| storey extension to the existing sports centre | | | measures identified in the individual technical assessments is proposed | | |
| Short List ID: 2 (LPA Ref. DC/19/1897): outline planning application for a care retirement community | Socio-economics: employment, West Sussex economy, open and play space provision | **Minor beneficial (not significant)** | No mitigation required. | **Minor beneficial (not significant)** | No monitoring is proposed. |
| | Socio-economics: market housing provision within Horsham District, market affordable housing provision within Horsham District | **Moderate beneficial (significant)** | No mitigation required. | **Moderate beneficial (significant)** | No monitoring is proposed. |
| Short List ID: 3 (LPA Ref. DC/25/1658): reserved matters application for 73 dwellings | Socio-economics: open and play space provision | **Minor beneficial (not significant)** | No mitigation required. | **Minor beneficial (not significant)** | No monitoring is proposed. |
| | Socio-economics: market housing provision within Horsham District, market affordable housing provision | **Moderate beneficial (significant)** | No mitigation required. | **Moderate beneficial (significant)** | No monitoring is proposed. |

| Cumulative development | Topic | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | within Horsham District | | | | |
| Short List ID: 4 (LPA Ref. DC/20/2607): outline application for 83 residential units | Socio-economics: market housing provision within Horsham District, market affordable housing provision within Horsham District | **Moderate beneficial (significant)** | No mitigation required. | **Moderate beneficial (significant)** | No monitoring is proposed. |
| Short List ID: 5 (LPA Ref. DC/24/1699): development of 101 dwellings | Socio-economics: open and play space provision | **Minor beneficial (not significant)** | No mitigation required. | **Minor beneficial (not significant)** | No monitoring is proposed. |
| | Socio-economics: market housing provision within Horsham District, market affordable housing provision within Horsham District | **Moderate beneficial (significant)** | No mitigation required. | **Moderate beneficial (significant)** | No monitoring is proposed. |
| Short List ID: 7 (LPA Ref. DC/25/1910): outline planning permission for 125 homes | Socio-economics: open and play space provision | **Minor beneficial (not significant)** | No mitigation required. | **Minor beneficial (not significant)** | No monitoring is proposed. |
| | Socio-economics: market housing provision within Horsham District | **Moderate beneficial (significant)** | No mitigation required. | **Moderate beneficial (significant)** | No monitoring is proposed. |

| Cumulative development | Topic | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Short List ID: 8 (LPA ref. DC/23/1178): outline planning application for a Sports and Leisure Hub | Cultural Heritage: built heritage assets | **Minor adverse (not significant)** | No additional mitigation beyond the measures identified in the individual technical assessments is proposed | **Minor adverse (not significant)** | No monitoring is proposed. |
| | Socio-economics: employment, West Sussex economy | **Minor beneficial (not significant)** | No mitigation required. | **Minor beneficial (not significant)** | No monitoring is proposed. |
| Short List ID: 9 (LPA Ref. DC/20/0695): outline application for 100 residential units | Socio-economics: market housing provision within Horsham District, market affordable housing provision within Horsham District | **Moderate beneficial (significant)** | No mitigation required. | **Moderate beneficial (significant)** | No monitoring is proposed. |
| Short List ID: 10 (LPA ref. DC/14/0590/DC/24/0772): Residential development of up to 540 dwellings and 54 retirement living apartments, associated vehicular, cycle and pedestrian access, drainage and landscape works. | Landscape: NCA 121 Low Weald West Sussex Landscape Character Area H1 Central Low Weald | **Minor adverse (not significant)** | No additional mitigation beyond the measures identified in the individual technical assessments is proposed | **Minor adverse (not significant)** | No monitoring is proposed. |

| Cumulative development | Topic | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | Landscape: Horsham District Landscape Character Area H1 Southwater and Christ's Hospital Farmlands and G4 Southwater & Shipley Wooded Farmlands and site level | **Moderate adverse (significant)** | No additional mitigation beyond the measures identified in the individual technical assessments is proposed | **Moderate adverse (significant)** | No monitoring is proposed. |
| | Visual | **Moderate to Major adverse (significant)** | No additional mitigation beyond the measures identified in the individual technical assessments is proposed | **Moderate to Major adverse (significant)** | No monitoring is proposed. |
| | Socio-economics: market housing provision within Horsham District | **Moderate beneficial (significant)** | No mitigation required. | **Moderate beneficial (significant)** | No monitoring is proposed. |
| Short List ID: 11 (LPA Ref. DC/16/1677): outline planning application for a mixed use | Socio-economics: open and play space provision | **Minor beneficial (not significant)** | No mitigation required. | **Minor beneficial (not significant)** | No monitoring is proposed. |

| Cumulative development | Topic | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| development including up to 2750 dwellings and commercial, leisure and education facilities | Socio-economics: market housing provision within Horsham District | **Moderate beneficial (significant)** | No mitigation required. | **Moderate beneficial (significant)** | No monitoring is proposed. |
| Long List ID: 19 (LPA ref. DC/14/2582): Residential development of up to 193 No. dwellings (including affordable housing) and associated works (Outline) | Landscape: NCA 121 Low Weald West Sussex Landscape Character Area H1 Central Low Weald | **Minor adverse (not significant)** | No additional mitigation beyond the measures identified in the individual technical assessments is proposed | **Minor adverse (not significant)** | No monitoring is proposed. |
| | Landscape: Horsham District Landscape Character Area H1 Southwater and Christ's Hospital Farmlands and G4 Southwater & Shipley Wooded Farmlands and site level | **Moderate adverse (significant)** | No additional mitigation beyond the measures identified in the individual technical assessments is proposed | **Moderate adverse (significant)** | No monitoring is proposed. |
| Long List ID: 20 (LPA ref. DC/11/0657): development of 131 residential dwellings with associated infrastructure | Landscape: NCA 121 Low Weald West Sussex Landscape Character Area | **Minor adverse (not significant)** | No additional mitigation beyond the measures identified in | **Minor adverse (not significant)** | No monitoring is proposed. |

| Cumulative development | Topic | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | H1 Central Low Weald | | the individual technical assessments is proposed | | |
| | Landscape: Horsham District Landscape Character Area H1 Southwater and Christ's Hospital Farmlands and G4 Southwater & Shipley Wooded Farmlands and site level | **Moderate adverse (significant)** | No additional mitigation beyond the measures identified in the individual technical assessments is proposed | **Moderate adverse (significant)** | No monitoring is proposed. |

**Table 16-9 – Summary of effect interactions**

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Construction Phase** | | | | | |
| Residents immediately adjacent to the Site | Effect interactions as a result of noise and vibration, landscape and visual and socio-economic effects. | **Moderate adverse to Major adverse (significant)** | No additional mitigation beyond the measures identified in the individual technical assessments is proposed | **Moderate adverse (significant)** | No monitoring is proposed. |
| Construction workers at the Site | Effect interactions as a result of noise and vibration, and flood risk | **Minor adverse (not significant)** | No additional mitigation beyond the measures identified in the individual technical assessments is proposed | **Minor adverse (not significant)** | No monitoring is proposed. |
| **Operational Phase** | | | | | |
| Transient users of Worthing Road, Chessall Avenue and the roundabout junction to the A24 from Worthing Road | Effect interactions as a result of visual amenity, fear and intimation impacts. | **Moderate Adverse (significant)** | No additional mitigation beyond the measures identified in the individual technical | **Moderate Adverse (significant)** | No monitoring is proposed. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | | | assessments is proposed | | |
| Residents immediately adjacent to the Site | Effects interactions as a result of traffic generated noise and vibration impacts and visual amenity impacts. | **Moderate Adverse (Significant)** | No additional mitigation beyond the measures identified in the individual technical assessments is proposed | **Moderate Adverse (Significant)** | No monitoring is proposed. |

## 16.9. REFERENCES


- **Reference 16.1**: UK Government. 2017. The Town and Country Planning (Environment Impact Assessment) Regulations 2017. (Online). Available at: The Town and Country Planning (Environmental Impact Assessment) Regulations 2017
- **Reference 16.2**: Ministry of Housing, Communities & Local Government (2024). National Planning Policy Framework, February 2025. (Online). Available at: https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf
- **Reference 16.3**: Horsham District Council (2015). Horsham District Planning Framework (excluding South Downs National Park). (Online). Available at: Read the current Local Plan | Horsham District Council
- **Reference 16.4**: Institute of Sustainability and Environmental Professionals. (2020). Demystifying Cumulative Effects. (Online). Available at: Outlook Journal
- **Reference 16.5**: UK Government. 2025. Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment. (Online). Available at: Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment - GOV.UK
- **Reference 16.6**: WSP (2025) Land West of Southwater EIA Scoping Report

N

Short List ID11: DC/16/1677

Short List ID2: DC/19/1897

Short List ID1: DC/21/1524

Short List ID8: DC/23/1178

Short List ID7: DC/25/1910

Short List ID4: DC/20/2607

Short List ID10: DC/24/0772

Short List ID9: DC/20/0695

Short List ID3: DC/25/1658

Short List ID5/6: DC/24/1699 / DC/25/1922

0 0.5 1 2 3
Km

Scale: 1:750,000

**Legend**

- Site Boundary
- 1km buffer
- 2km buffer
- 10km buffer
- Cumulative Developments

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| FIRST DRAFT ISSUE | | | | |

DESCRIPTION

PROJECT TITLE:

LAND NORTH-WEST OF SOUTHWATER

DRAWING TITLE:

FIGURE 16-1 -
SHORT LIST OF
CUMULATIVE DEVELOPMENTS

CONFIDENTIALITY: PUBLIC

| DRAWN: | CHECKED: | APPROVED: | AUTHORISED: |
|---|---|---|---|
| PB | SP | SS | AH |

| SCALE @ A3 SIZE: | DATE: | REVISION: |
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| 1:88,000 | 16/02/2026 | P01 |

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70091497-WSP-ENV-005

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70 Chancery Lane
London
WC2A 1AF

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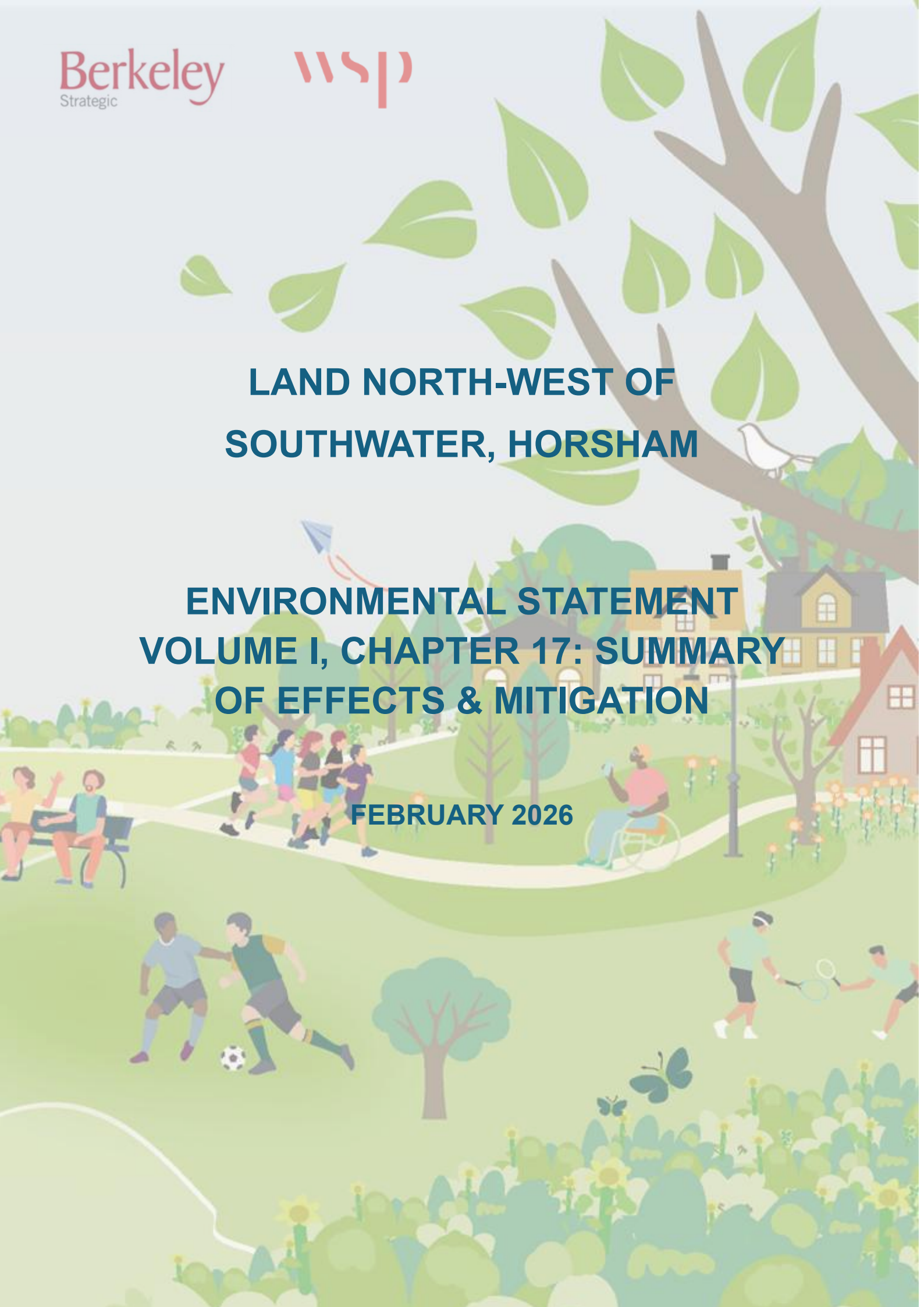

# LAND NORTH-WEST OF SOUTHWATER, HORSHAM

# ENVIRONMENTAL STATEMENT VOLUME I, CHAPTER 17: SUMMARY OF EFFECTS & MITIGATION

**FEBRUARY 2026**

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# 17. SUMMARY OF EFFECTS AND MITIGATION MEASURES

## 17.1. INTRODUCTION

17.1.1. This chapter presents a summary of the outcome of the assessment of likely environmental effects arising from the Proposed Development identified in technical chapters 6-15.

## 17.2. SUMMARY OF MITIGATION AND RESIDUAL EFFECTS

17.2.1. **Tables 17-1** to **Tables 17-11** below present a summary of the outcome of the assessment of likely environmental effects arising from the Proposed Development identified in technical chapters 6-15.

17.2.2. Specifically, the summary presents:

- Likely environmental effects considered;
- Sensitive receptors considered;
- Significance and nature of effects prior to mitigation / enhancement (pre-secondary mitigation / enhancement effects);
- Any proposed secondary mitigation / enhancement measures;
- Significance and nature of effects following mitigation enhancement (residual effects); and
- Any monitoring obligations.

17.2.3. It is likely that all proposed secondary mitigation will be secured through planning conditions.

**Table 17-1 – Summary of Effects of the Proposed Development on Air Quality**

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Construction Phase** | | | | | |
| Human and ecological receptors within 250m of the Site and/or within 50m of trackout | Fugitive dust and particulate matter emissions from construction activities. | The IAQM guidance on construction dust assessment advises that significance should be determined only after mitigation measures have been considered. On this basis, the significance is only reported for the residual effects.<br>T / D / ST | ▪ Good site practice and implementation of suitable mitigation measures identified within IAQM construction dust guidance for high-risk sites which will be outlined in the Dust Management Plan. | **Negligible (not significant)**<br>T / D / ST | N/A |
| **Operational Phase** | | | | | |
| Human receptors | Emissions of $NO_x$, $PM_{10}$, and $PM_{2.5}$ from construction traffic affecting local air quality at existing and future human health receptors. | **Negligible (not significant)**<br>P / D / LT | ▪ No mitigation proposed. | **Negligible (not significant)**<br>P / D / LT | N/A |

Key to table:

**P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable**

**Table 17-2 – Summary of Effects of the Proposed Development on Cultural Heritage**

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Construction Phase** | | | | | |
| Great House Farmhouse, Grade II* | Temporary views of construction equipment, construction traffic, dust and noise.<br>Demolition of Barns D – J improving views of the built heritage asset. | **Moderate Adverse (significant)**<br>T / D / MT<br>**Minor beneficial (not significant)**<br>P / D / LT | ▪ Measures implemented in a CEMP<br>▪ A programme of Historic Building Recording (with analysis)<br>▪ A Landscape and Environmental Management Plan (LEMP).<br>▪ At reserved matters stage, consider creative opportunities to enhance heritage assets and deliver public (heritage) benefit, and public engagement. | **Minor Adverse (not significant)**<br>T / D / MT<br>**Minor beneficial (not significant)**<br>P / D / LT | N/A |
| Barns at Great House Farm, Non-Designated Heritage Asset | Temporary views of construction equipment, construction traffic, dust and noise.<br>Demolition of Barns D – J improving views of the built heritage asset. | **Negligible adverse (not significant)**<br>T / D / MT<br>**Negligible beneficial (not significant)**<br>P / D / LT | ▪ Measures implemented in a CEMP<br>▪ A programme of Historic Building Recording (with analysis) | **Negligible adverse (not significant)**<br>T / D / MT<br>**Negligible beneficial (not significant)** | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | | | ▪ A Landscape and Environmental Management Plan (LEMP).<br>▪ At reserved matters stage, consider creative opportunities to enhance heritage assets and deliver public (heritage) benefit, and public engagement. | P / D / LT | |
| Old Lodge to North East of Christ's Hospital, Grade II (NHLE reference: 1027033) | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)**<br>T / D / MT | ▪ No additional mitigation required. | **Minor Adverse (not significant)**<br>T / D / MT | N/A |
| East Lodge and gateway, Christ's Hospital School, Grade II (NHLE reference: 1462525) | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)**<br>T / D / MT | ▪ No additional mitigation required. | **Minor Adverse (not significant)**<br>T / D / MT | N/A |
| Sluetts, Christ's Hospital, Grade II (NHLE reference: 1027035) | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)**<br>T / D / MT | ▪ No additional mitigation required. | **Minor Adverse (not significant)**<br>T / D / MT | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Lanaways Farmhouse, Christ's Hospital, Grade II (NHLE reference: 1027036) | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | ▪ No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |
| Lanaways Barn, Grade II (NHLE reference: 1119726) | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | ▪ No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |
| Bodimans, Christ's Hospital, Grade II (NHLE reference: 1354171) | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | ▪ No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |
| Sayers Farmhouse, Christ's Hospital, Grade II (NHLE reference: 1027037) | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | ▪ No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |
| Barns to North West of Sayers Farmhouse, Christ's Hospital (NHLE reference: 1027038) | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | ▪ No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |
| College Farmhouse, Grade II (NHLE reference: 1354174) | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | ▪ No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Pond Farmhouse, Grade II (NHLE reference: 1027041) | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | ▪ No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |
| Pump Cottage, Worthing Road, Non-Designated Heritage Asset | Temporary views of construction equipment, construction traffic, dust and noise. | **Negligible adverse (not significant)** T / D / MT | ▪ No additional mitigation required | **Negligible adverse (not significant)** T / D / MT | N/A |
| The Hen and Chicken Public House, Worthing Road, Non-Designated Heritage Asset | Temporary views of construction equipment, construction traffic, dust and noise. | **Negligible adverse (not significant)** T / D / MT | ▪ No additional mitigation required | **Negligible adverse (not significant)** T / D / MT | N/A |
| Ye Olde Barn, Worthing Road, Non-Designated Heritage Asset | Temporary views of construction equipment, construction traffic, dust and noise. | **Negligible adverse (not significant)** T / D / MT | ▪ No additional mitigation required | **Negligible adverse (not significant)** T / D / MT | N/A |
| Holy Innocents Church, Grade II (NHLE reference: 1259780) | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | ▪ No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |
| Vicarage Cottage, Grade II (NHLE reference: 1027059) | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | ▪ No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Southwater House, Grade II (NHLE reference: 1409948) | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | ▪ No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |
| Christ's Hospital Station Goods Shed, Non-Designated Heritage Asset | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | ▪ No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |
| Station Cottages at Christ's Hospital Station, Non-Designated Heritage Asset | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | ▪ No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |
| Dining Hall and Water Tower to North, School to South, Colonnaded Wings to East and West (Chapel in West Wing) Forming a Quadrangle, and 8 H Shaped Blocks (4 on each side of Dining Hall) at Christ's Hospital, Grade II* (NHLE reference: 1027034) | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)** T / D / MT | ▪ No additional mitigation required. | **Minor Adverse (not significant)** T / D / MT | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Arts Centre and Music School at Christ's Hospital, Grade II* (NHLE reference: 1247243) | Temporary views of construction equipment, construction traffic, dust and noise. | **Minor Adverse (not significant)**<br>T / D / MT | ▪ No additional mitigation required. | **Minor Adverse (not significant)**<br>T / D / MT | N/A |
| Non-designated archaeological finds and features | Direct physical impacts | **Minor adverse (not significant)**<br>P / D / LT | ▪ A programme of Archaeological Evaluation works (followed by any archaeological mitigation to publication and deposition of the Site archive) is required. | **Negligible adverse (not significant)**<br>P / D / LT | N/A |
| Medieval manorial boundary, surviving historic hedgerows/shaws, relict medieval landscape and historic routeways, and their setting. | Potential for direct physical impacts and changes to setting. | **Negligible adverse (not significant)**<br>P / D / LT | ▪ A programme of Archaeological Evaluation works (followed by any archaeological mitigation) is required. | **Negligible adverse (not significant)**<br>P / D / LT | N/A |
| **Operational Phase** | | | | | |
| Great House Farmhouse, Grade II* | New views of the Proposed Development, alongside beneficial effects from sensitive | **Moderate adverse (significant)**<br>P / D / LT | ▪ No additional mitigation measures. | **Minor adverse (not significant)**<br>P / D / LT | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | redevelopment of the barns complex. | | | **Minor Beneficial (not significant)** **P / D / LT** | |
| Barns at Great House Farm, Non-Designated Heritage Asset | Introduction of new use of Barns A -C and views of newbuild structures. | **Minor Adverse (not significant)** P / D / LT **Minor beneficial (not significant)** P / D / LT | ▪ No additional mitigation measures. | **Minor Adverse (not significant)** P / D / LT **Minor beneficial (not significant)** P / D / LT | N/A |
| Old Lodge to North East of Christ's Hospital, Grade II (NHLE reference: 1027033) | Loss of wider rural surroundings and introduction of built form and infrastructure. | **Minor Adverse (not significant)** P / D / LT | ▪ No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |
| East Lodge and gateway, Christ's Hospital School, Grade II (NHLE reference: 1462525) | Loss of wider rural surroundings and introduction of built form and infrastructure. | **Minor Adverse (not significant)** P / D / LT | ▪ No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |
| Sluetts, Christ's Hospital, Grade II (NHLE reference: 1027035) | Loss of wider rural surroundings and introduction of built form and infrastructure. | **Minor Adverse (not significant)** P / D / LT | ▪ No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Lanaways Farmhouse, Christ's Hospital, Grade II (NHLE reference: 1027036) | Loss of wider rural surroundings and introduction of built form and infrastructure. | **Minor Adverse (not significant)** P / D / LT | ▪ No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |
| Lanaways Barn, Grade II (NHLE reference: 1119726) | Loss of wider rural surroundings and introduction of built form and infrastructure. | **Minor Adverse (not significant)** P / D / LT | ▪ No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |
| Bodimans, Christ's Hospital, Grade II (NHLE reference: 1354171) | Loss of wider rural surroundings and introduction of built form and infrastructure. | **Minor Adverse (not significant)** P / D / LT | ▪ No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |
| Sayers Farmhouse, Christ's Hospital, Grade II (NHLE reference: 1027037) | Loss of wider rural surroundings and introduction of built form and infrastructure. | **Minor Adverse (not significant)** P / D / LT | ▪ No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |
| Barn to North West of Sayers Farmhouse, Christ's Hospital (NHLE reference: 1027038) | Loss of wider rural surroundings and introduction of built form and infrastructure. | **Minor Adverse (not significant)** P / D / LT | ▪ No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |
| College Farmhouse, Grade II (NHLE reference: 1354174) | Loss of wider rural surroundings. | **Moderate Adverse (significant)** P / D / LT | ▪ No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Pond Farmhouse, Grade II (NHLE reference: 1027041) | Views of Proposed Development within mid-distance setting. | **Minor Adverse (not significant)** P / D / LT | ▪ No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |
| Pump Cottage, Worthing Road, Non-Designated Heritage Asset | Views of Proposed Development within mid-distance setting. | **Negligible Adverse (not significant)** P / D / LT | ▪ No additional mitigation measures | **Negligible Adverse (not significant)** P / D / LT | N/A |
| The Hen and Chicken Public House, Worthing Road, Non-Designated Heritage Asset | Views of Proposed Development within mid-distance setting. | **Negligible adverse (not significant)** P / D / LT | ▪ No additional mitigation measures | **Negligible adverse (not significant)** P / D / LT | N/A |
| Ye Olde Barn, Worthing Road, Non-Designated Heritage Asset | Views of Proposed Development within mid-distance setting. | **Negligible adverse (not significant)** P / D / LT | ▪ No additional mitigation measures | **Negligible adverse (not significant)** P / D / LT | N/A |
| Holy Innocents Church, Grade II (NHLE reference: 1259780) | Open views retained, but some additional new forms in place of rural land visible to the north. | **Minor Adverse (not significant)** P / D / LT | ▪ No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |
| Vicarage Cottage, Grade II (NHLE reference: 1027059) | Open views retained, but some additional new forms in place of rural land visible to the north. | **Minor Adverse (not significant)** P / D / LT | ▪ No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Southwater House, Grade II (NHLE reference: 1409948) | Open views retained, but some additional new forms in place of rural land visible to the north. | **Minor Adverse (not significant)** P / D / LT | ▪ No additional mitigation measures | **Minor Adverse (not significant)** P / D / LT | N/A |
| Christ's Hospital Station Goods Shed, Non-designated Heritage Asset | View of car parking within close settings, and glimpsed views of Proposed Development. | **Negligible adverse (not significant)** P / D / LT | ▪ No additional mitigation measures | **Negligible adverse (not significant)** P / D / LT | N/A |
| Station Cottages at Christ's Hospital Station, Non-Designated Heritage Asset | View of car parking within close settings, and glimpsed views of Proposed Development. | **Negligible adverse (not significant)** P / D / LT | ▪ No additional mitigation measures | **Negligible adverse (not significant)** P / D / LT | N/A |
| Medieval manorial boundary, surviving historic hedgerows/shaws, relict medieval landscape and historic routeways, and their setting. | Potential for continued direct physical impacts and changes to setting. | **Minor Adverse (not significant)** P / D / LT | ▪ The provision of a heritage trail and interpretation signage within the Proposed Development. | **Minor Beneficial (not significant)** P / D / LT | N/A |

Key to table:

**P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable**

**Table 17-3 – Summary of Effects of the Proposed Development on Ecology**

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Construction Phase** | | | | | |
| **Key Ecological Receptor:** Arun Valley SAC / SPA / Ramsar and Upper Arun SSSI site | ▪ Effects on the hydrological resource and water quality of the SAC / SPA / Ramsar / SSSI resulting from construction activities within the Site. | **Negligible (not significant)**<br>T / I / ST and reversible | ▪ Development surface water drainage design to ensure maintenance of water quality, constancy and quantity supporting retained wetland features within and adjacent to the site.<br>▪ Construction works to be carried out in accordance with EA pollution prevention guidance.<br>▪ Protection measures to be set out in a CEMP. | **Negligible (not significant)**<br>N/A | ▪ Protection measures to be set out in a CEMP and monitored by Site Manager. |
| **Key Ecological Receptor:** The Mens SAC | ▪ Loss and fragmentation of small areas of bat foraging and commuting habitat potentially used by bats associated with the SAC. | **Negligible (not significant)**<br>N/A | ▪ N/A<br>▪ Measures to maintain opportunities for roosting, foraging and commuting bats (see below) | **Negligible (not significant)**<br>N/A | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | ▪ Disturbance to foraging/commuting bats associated with the SAC from construction phase lighting. | | within site landscape scheme/lighting design through establishing new wetlands and meadow grasslands, outlined in a LEMP. | | |
| **Key Ecological Receptor:** Courtland Wood LWS, Sparrows Copse LWS and other undesignated ancient woodland. | ▪ Loss of trees and physical damage to retained woodland trees.<br>▪ Damage to trees through ground compaction, pollution, root severance, ground-level changes, and changes to hydrology.<br>▪ Loss of habitat connectivity between Courtland Wood LWS and Smith's Copse through new road infrastructure.<br>▪ Increased light and noise levels affecting value of retained woodland for wildlife.<br>▪ Opportunity for establishment of new woodland planting and | **Moderate Adverse (significant)**<br>T-P / D&I / ST-LT (but some elements reversible) | ▪ Implementation of construction exclusion/buffer zones around woodland and protected woodland trees in accordance with BS5837 or the advice of a suitably qualified arboriculturist;<br>▪ Controls on lighting and noise in vicinity of woodlands;<br>▪ Provide adjacent areas of complementary habitat e.g. scrub/meadow grassland/wetlands | **Negligible (not significant)**<br>Potential P beneficial in LT through woodland management and provision of complementary habitats – arising during construction and continuing throughout operational phase. | ▪ Development design, including habitat creation and lighting proposals, to be reviewed by a suitably qualified ecologist.<br>▪ Protection measures to be set out in a CEMP and monitored by Site Manager.<br>▪ LEMP to include monitoring and review. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | complementary habitats within open spaces (beneficial continuing through operational phase). | | and maintain habitat linkages (continuing into operational phase).<br>▪ Commence management through LEMP.<br>▪ Protection measures to be set out in a CEMP.<br>▪ Woodlands will be retained within areas of open space, with a minimum buffer of 15m provided between the ancient woodland and the closest development parcels. | | |
| **Key Ecological Receptor:** Network of hedgerows, mature trees and treelines | ▪ Loss of secondary woodlands, hedgerows and trees of limited ecological importance in their own right.<br>▪ Severance of existing hedgerow corridors where crossed by roads/cycleways/footpath routes. | **Major Adverse (significant)**<br>T-P / D&I / ST-LT (but some elements reversible) | ▪ Only use or provide access points through existing hedgerows and treelines where merited by design.<br>▪ Minimise loss of linear habitats at access points | **Negligible (not significant)**<br>T / D&I / ST | ▪ Development design, including habitat creation and lighting proposals, to be reviewed by a suitably qualified ecologist. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | ▪ Direct physical damage to retained secondary woodlands, hedgerows, trees and scrub and indirect damage through ground compaction, pollution, root severance, ground-level changes and loss of supportive habitat for associated wildlife.<br>▪ Increased light and noise levels affecting the value of retained secondary woodland, hedgerows, scrub and trees for wildlife.<br>▪ Establishment of new structural landscape planting and opportunity for other new hedgerows, woodland and scattered trees part of the Site's green infrastructure (beneficial). | | through use of existing gaps.<br>▪ Enhance existing hedgerows and treelines through gapping up.<br>▪ Creation of new linear semi-natural habitats connecting with existing habitat within and adjacent to the site.<br>▪ Protection of retained hedgerow, scrub and trees in accordance with BS5837 or the advice of a suitably qualified arboriculturist.<br>▪ Retention of mature trees and existing hedgerows outside of residential curtilages and allowing sufficient space for management.<br>▪ Controls on lighting, dust and noise in vicinity of veteran trees; | | ▪ Protection measures to be set out in a CEMP and monitored by Site Manager.<br>▪ LEMP to include monitoring and review. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | | | ▪ Landscape design to maintain connectivity between areas of on- and off-site habitat and provide complementary semi-natural habitats.<br>▪ Opportunity to create new linear habitats/habitat corridors and connection to new and existing areas of semi-natural habitat such as wetland, woodland, scrub, and species-rich grassland within areas of open space throughout the site.<br>▪ Commence management through LEMP.<br>▪ Protection measures to be set out in a CEMP. | | |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Key Ecological Receptor:** Veteran trees | ▪ Direct loss of veteran trees and deterioration of retained trees through loss of associated habitat.<br>▪ Direct or indirect physical damage to retained veteran trees through ground compaction, pollution, root severance, ground level changes and impacts on hydrology.<br>▪ Increased light and noise levels affecting value of retained veteran trees for wildlife. | **Moderate Adverse (significant)**<br>T-P / D&I / ST-LT (but some elements reversible) | ▪ Ensure no loss or deterioration of veteran trees.<br>▪ Retention of veteran trees outside of residential curtilages and allowing sufficient space for management.<br>▪ Provision of expanded buffer zones around veteran trees, comprising predominantly semi-natural habitats.<br>▪ Controls on lighting, dust and noise in vicinity of veteran trees.<br>▪ Landscape design to maintain connectivity between areas of on- and off-site habitat and provide complementary semi-natural habitats. | **Negligible (not significant)**<br>(Potentially P beneficial in LT through protection and management of existing trees and ensuring future generations). | ▪ Development design, including habitat creation and lighting proposals, to be reviewed by a suitably qualified ecologist.<br>▪ Protection measures to be set out in a CEMP and monitored by Site Manager.<br>▪ LEMP/ Veteran Tree Management Plan to include monitoring and review. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | | | ▪ Implementation of Veteran Tree Management Plan.<br>▪ Protection measures to be set out in a CEMP. | | |
| **Key Ecological Receptor:** Bats (roosting) | ▪ Injury/mortality of roosting bats, destruction or abandonment of roosts and loss of bat roosting opportunities.<br>▪ As the buildings/trees of the Proposed Development age/mature it is likely that these will provide new opportunities for roosting bats (beneficial). | **Moderate Adverse (significant)**<br>T-P / D&I / ST-LT (but some elements reversible) | ▪ In advance of works commencing, provide replacement roosting opportunities proportionate to those lost.<br>▪ Works affecting confirmed roost to be carried out during spring or autumn to avoid times of year when bats are most susceptible to disturbance (unless breeding/ hibernation discounted).<br>▪ Updated emergence/re-entry surveys or climbed inspections of trees | **Negligible (not significant)**<br>(Potentially P beneficial in LT through increased roosting opportunities) | ▪ Development design, including habitat creation and lighting proposals, to be reviewed by a suitably qualified ecologist.<br>▪ Replacement roost provision to be monitored in line with approved Natural England licence.<br>▪ Protection measures to be set out in a CEMP and monitored by Site Manager. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | | | for bats to be conducted where appropriate prior to works taking place;<br>▪ Removal of features providing bat roosting potential should be carried out by hand under the supervision of a licensed bat worker.<br>▪ Installation of bat boxes on retained mature trees across the Site, particularly those with good connections to foraging habitat.<br>▪ Creation of roosting opportunities on new dwellings and other buildings. | | |
| **Key Ecological Receptor:** Bats (foraging) | ▪ Mortality of foraging/commuting bats and effects on foraging and commuting habitat through habitat loss and | **Moderate Adverse (significant)**<br>T-P / D&I / ST-LT (but some elements reversible) | ▪ Retention of network of foraging habitat within and around site.<br>▪ Avoidance of disturbance and | **Negligible (not significant)**<br>(Potentially P beneficial in LT through increased | ▪ Development design, including habitat creation and lighting |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | fragmentation and increased light levels.<br>▪ Opportunities for enhanced foraging habitat within the Site's green infrastructure through establishment of new wetlands and meadow grassland, trees and scrub (beneficial). | | unsympathetic lighting of retained foraging habitat.<br>▪ Landscape design to maintain connectivity between areas of on- and off-site habitat.<br>▪ Use of nectar and pollen rich species in planting schemes.<br>▪ Opportunity for enhancement of retained semi-natural habitats and to provide new and replacement wetland, hedgerow, trees, scrub and species-rich grassland within areas of open space throughout the site.<br>▪ Use of nectar and pollen rich species in formal planting schemes.<br>▪ Protection measures to be set out in a CEMP. | foraging opportunities). | proposals, to be reviewed by a suitably qualified ecologist.<br>▪ Protection measures to be set out in a CEMP and monitored by Site Manager and Natural England licence holder. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Key Ecological Receptor:** Birds | ▪ Effects on nesting birds through direct physical damage and indirect effects of disturbance on new and retained habitats.<br>▪ Loss and fragmentation of habitats including trees, hedgerows, scrub and open farmland.<br>▪ Opportunities for establishment of new breeding and foraging habitat and ecological corridors as part of the Site's green infrastructure (beneficial). | **Moderate Adverse (significant)**<br>T-P / D&I / ST-LT (but some elements reversible) | ▪ Site clearance and initial ground works to be carried out outside bird breeding season unless preceded by a check for nesting birds.<br>▪ Noisy activities to avoid areas of retained nesting habitat.<br>▪ Sensitive lighting design for construction phase.<br>▪ Landscape design to maintain connectivity between areas of on- and off-site habitat.<br>▪ Provision of bird boxes on retained trees and new buildings.<br>▪ Opportunity for enhancement of retained semi-natural habitats and to provide new and replacement wetland, | **Negligible (not significant)**<br>Potentially minor beneficial in LT for some species through increased nesting and habitat opportunities. Arising during construction phase and continuing throughout operational phase. | ▪ Development design, including habitat creation and lighting proposals, to be reviewed by a suitably qualified ecologist.<br>▪ Protection measures to be set out in a CEMP and monitored by Site Manager. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | | | hedgerow, trees, scrub and species-rich grassland within areas of open space throughout the Site.<br>▪ Protection measures to be set out in a CEMP. | | |
| **Other Ecological Receptor:** Network of streams, ditches and ponds. | ▪ Direct loss of ditch habitats and loss of connectivity where streams and ditches are crossed by roads.<br>▪ Waterborne pollution entering wetlands through Site run-off or environmental accidents.<br>▪ Adverse effects on the quantity of water entering the waterbodies and continuity of the flow of on-site and off-site streams.<br>▪ Increased noise, light and human disturbance to wildlife currently using the waterbodies.<br>▪ Opportunities for enhancement of retained on-site streams, ponds | **Minor Adverse (significant)**<br>T-P / D&I / ST-LT (but some elements reversible) | ▪ Minimise loss of ditches and ponds in detailed design.<br>▪ Enhancement of retained ditches and ponds (e.g. through reduced shading, de-silting etc.).<br>▪ Development surface water drainage design to ensure maintenance of water quality, constancy and quantity supporting retained wetland features within and adjacent to the site. | **Negligible (not significant)**<br>Potentially P beneficial in LT through delivery of newly created and enhanced wetland habitats. Arising during construction phase and continuing throughout operational phase. | ▪ Development design, including habitat creation and lighting proposals, to be reviewed by a suitably qualified ecologist.<br>▪ Protection measures to be set out in a CEMP and monitored by Site Manager. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | and ditches and creation of new wetland habitats as part of the Site's SuDS network (positive). | | ▪ Construction works to be carried out in accordance with EA pollution prevention guidance.<br>▪ Sensitive lighting design for the construction phase.<br>▪ Secure management through inclusion in a LEMP.<br>▪ Opportunity to create new ponds, ditches and other wetland habitats through site landscape and SuDS strategies.<br>▪ Opportunity to provide adjacent areas of complementary habitat e.g. scrub/tree planting and Meadow grassland, additional wetlands etc secured through management plans | | |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | | | agreed at reserved matters.<br>▪ Protection measures to be set out in a CEMP.<br>▪ The majority of the ponds will be retained within areas of open greenspace. The Marlpost Gill stream will be retained within a wide corridor of green space with a minimum width of approximately 50m. With the exception of a new road crossing, the northern stream will also be retained within corridor of green space with a minimum width of approximately 10m. | | |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | ▪ [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| **Other Ecological Receptor:** Reptiles | ▪ Direct injury/mortality of reptiles.<br>▪ Reduction in the availability of suitable habitat at the Site.<br>▪ Opportunity for creation and maintenance of areas of new habitat as part of the Site's green | **Negligible (not significant)**<br>T-P / D&I / ST-LT (but some elements reversed) | ▪ Protection of reptiles during construction through sensitive clearance of vegetation.<br>▪ Creation of new habitats of value to reptiles within | **Negligible (not significant)**<br>Potentially P beneficial in LT through delivery of newly created and enhanced reptile habitats. Arising during construction | ▪ Development design, including habitat creation and lighting proposals, to be reviewed by a suitably |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | infrastructure (beneficial). | | areas of open space.<br>▪ Protection measures to be set out in a CEMP. | phase and continuing throughout operational phase. | qualified ecologist.<br>▪ Protection measures to be set out in a CEMP and monitored by Site Manager. |
| **Other Ecological Receptor:** Great Crested Newts (GCN) | ▪ Direct injury and mortality of individual GCN and reduction in available habitat.<br>▪ Establishment of new potential breeding habitat and new terrestrial habitat (beneficial). | **Negligible (not significant)**<br>T-P / D&I / ST-LT (but some elements reversible) | ▪ Protection of Great Crested Newts during construction through sensitive clearance of vegetation, including trapping and translocation where appropriate.<br>▪ Creation of new habitats of value to Great Crested Newts within areas of open space.<br>▪ Protection measures to be set out in a CEMP. | **Negligible (not significant)**<br>Potentially P beneficial in LT through delivery of newly created and enhanced habitat for Great Crested Newts. Arising during construction phase and continuing throughout operational phase. | ▪ Development design, including habitat creation and lighting proposals, to be reviewed by a suitably qualified ecologist.<br>▪ Monitoring to be carried out in line with approved Natural England licence Protection measures to be set out in a CEMP and monitored by Site Manager |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | | | | | and Natural England license holder.<br>▪ Protection measures to be set out in a CEMP and monitored by Site Manager and Natural England licence holder. |
| **Other Ecological Receptor:** Invertebrates | ▪ Direct loss of some areas of habitat supporting invertebrates.<br>▪ Opportunities for creation of new areas of high-quality habitat in areas of informal open spaces as part of Site's green infrastructure (beneficial). | **Negligible (not significant)** | ▪ Retention, enhancement and creation of new habitats of value to invertebrates within areas of open space.<br>▪ Sensitive lighting design for the construction phase.<br>▪ Opportunity for enhancement of retained semi-natural habitats and to provide new and replacement wetland, hedgerow, trees, scrub and species- | **Negligible (not significant)**<br>Potentially P beneficial in LT through delivery of newly created and enhanced habitats for invertebrates. Arising during construction phase and continuing throughout operational phase. | ▪ Development design, including habitat creation and lighting proposals, to be reviewed by a suitably qualified ecologist.<br>▪ Protection measures to be set out in a CEMP and monitored by Site Manager. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | | | rich grassland within areas of open space throughout the site.<br>▪ Protection measures to be set out in a CEMP. | | |
| **Operational Phase** | | | | | |
| **Key Ecological Receptor:** Arun Valley SAC / SPA / Ramsar site and Upper Arun SSSI | ▪ Effects on the hydrological resource supporting the SAC/SPA/Ramsar resulting from increased abstraction during the operational use of the Site. | **Major Adverse (significant)**<br>T / I / LT but reversible | ▪ Development surface water drainage design to ensure maintenance of water quality, constancy and quantity supporting retained wetland features within and adjacent to the site. | **Negligible (not significant)**<br>N/A | ▪ Developer responsible for delivery of on-site water saving measures. |
| **Key Ecological Receptor:** The Mens SAC | ▪ Disturbance to foraging/commuting bats associated with the SAC from operational phase lighting.<br>▪ Enhanced foraging habitat within informal open space through establishment of new | **Negligible (not significant)**<br>N/A | ▪ Measures to maintain opportunities for roosting, foraging and commuting bats (see below) within site landscape scheme/ lighting design. | **Negligible (not significant)**<br>N/A | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | wetlands and meadow grassland, trees and scrub in accordance with Development Parameters (beneficial). | | | | |
| **Key Ecological Receptor:** Courtland Wood LWS, Sparrows Copse LWS and other undesignated ancient woodland | ▪ Increased light and noise levels affecting value of retained and new woodland areas for wildlife.<br>▪ Human activities resulting in damage, disturbance and change to habitats. | **Moderate adverse (significant)**<br>P / D&I / LT (but reversible) | ▪ Fencing and establishment of scrub ecotones for biodiversity and to control access into the woodland.<br>▪ Sensitive operational phase lighting design.<br>▪ Provide information to new residents.<br>▪ Establishment and management of adjacent areas of complementary habitat e.g. scrub/ meadow grassland/ wetland and habitat connections.<br>▪ Continue management of habitats through LEMP. | **Negligible (not significant)**<br>Potentially P beneficial in LT through woodland management provision of complementary habitats – arising during construction and continuing throughout operational phase. | ▪ Development design, including habitat creation and lighting proposals, to be reviewed by a suitably qualified ecologist.<br>▪ LEMP to include monitoring and review. |
| **Key Ecological Receptor:** Network | ▪ Direct and indirect physical damage to | **Moderate adverse (significant)** | ▪ Sensitive lighting design; | **Negligible (not significant)** | ▪ Development design, |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| of hedgerows, mature trees and treelines | woodlands, hedgerows, scrub and trees.<br>▪ Increased light and noise levels affecting the value of retained woodlands, hedgerows, scrub and trees for wildlife. | P / D&I / LT (but some reversible) | ▪ Development design to exclude features from residential curtilages and allow space for management;<br>▪ Establish adjacent complementary habitats;<br>▪ Continue management of habitats through LEMP. | Potentially P beneficial in LT for through improved linear habitat provision. | including habitat creation and lighting proposals, to be reviewed by a suitably qualified ecologist.<br>▪ LEMP to include monitoring and review. |
| **Key Ecological Receptor:** Veteran Trees | ▪ Deterioration of retained veteran trees through loss and damage to associated habitat.<br>▪ Increased light and noise levels affecting value of retained veteran trees for wildlife. | **Moderate adverse (significant)**<br>P / D&I / LT (but some reversible) | ▪ Establish adjacent complementary habitats.<br>▪ Sensitive lighting design.<br>▪ Development design to exclude features from residential curtilages and allow space for management.<br>▪ Continue management and enhancement works to ensure integrity of existing veterans | **Negligible (not significant)**<br>Potentially P beneficial in LT for through improved linear habitat provision. | ▪ Development design, including habitat creation and lighting proposals, to be reviewed by a suitably qualified ecologist.<br>▪ LEMP / Veteran Tree Management Plan to include monitoring and review. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | | | and that of next generation. | | |
| **Key Ecological Receptor:** Bats (roosting) | ▪ Injury/ mortality of roosting bats, destruction or abandonment of roosts and loss of bat roosting opportunities.<br>▪ As the buildings/trees of the Proposed Development age/ mature it is likely that these will provide new opportunities for roosting bats (beneficial). | **Negligible (not significant)**<br>P / D&I / LT (but some reversible) | ▪ Replacement roosting opportunities to be provided during construction phase.<br>▪ Sensitive lighting design. | **Negligible (not significant)**<br>Potentially P beneficial in LT for through improved roosting habitat provision. | ▪ Development design, including habitat creation and lighting, proposals to be reviewed by a suitably qualified ecologist.<br>▪ Replacement roost provision to be monitored in line with approved Natural England licence. |
| **Key Ecological Receptor:** Bats (foraging) | ▪ Mortality of foraging/ commuting bats and effects on foraging and commuting habitat through habitat loss and fragmentation and increased light levels. | **Moderate Adverse (significant)**<br>P / D&I / LT (but some reversible) | ▪ Habitat maintenance and enhancement works to be implemented during construction phase; | **Negligible (not significant)**<br>Potentially P beneficial in LT for foraging bats through improved habitats. | ▪ Development design, including habitat creation and lighting, proposals to be reviewed by a suitably |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | | | ▪ Sensitive lighting design. | | qualified ecologist.<br>▪ LEMP to included monitoring and review. |
| **Key Ecological Receptor:** Birds | ▪ Effects on nesting birds through direct physical damage and indirect effects of disturbance on new and retained habitats.<br>▪ Establishment of new habitats and management of existing as part of site landscape scheme (beneficial). | **Negligible (not significant)**<br>P / D&I / LT (but reversible) | ▪ Sensitive lighting design for the operational phase.<br>▪ Provide information to new residents.<br>▪ Continue management of new, retained and enhanced habitats. | **Negligible (not significant)**<br>Potentially P beneficial in LT for some bird species through improved habitat and increased nesting opportunities. | ▪ Development design, including habitat creation and lighting proposals to be reviewed by a suitably qualified ecologist.<br>▪ LEMP to include monitoring and review. |
| **Other Ecological Receptor:** Network of streams, ditches and ponds. | ▪ Waterborne pollution entering wetlands through Site run-off or environmental accidents.<br>▪ Adverse effects on the quantity of water entering the waterbodies and continuity of the flow of on-site and off-site streams. | **Moderate Adverse (significant)**<br>T-P / I&D / ST-LT (but reversible) | ▪ Sensitive lighting design for the operation phase.<br>▪ Provide information to new residents.<br>▪ Continue management of new, retained and enhanced habitats. | **Negligible (not significant)**<br>Potentially P beneficial in LT through improved wetland habitat provision. | ▪ Development design including habitat creation and lighting proposals, to be reviewed by a suitably |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | ▪ Increased noise, light and human disturbance to wildlife using retained and newly created wetland habitats. | | | | qualified ecologist.<br>▪ Monitoring/ maintenance of surface water drainage infrastructure.<br>▪ LEMP to include monitoring and review. |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| **Other Ecological Receptor:** Reptiles | ▪ Disturbance and mortality of reptiles through increased | **Negligible (not significant)**<br>P / D&I / LT | ▪ Provide information to new residents on impacts upon reptiles from human activities – | **Negligible (not significant)**<br>Potentially P beneficial in LT | ▪ Development and landscape design to be reviewed by a suitably |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | predation and human activity. | | local events, leaflets etc.<br>▪ Continue management of new, retained and enhanced habitats. | through delivery of newly created and enhanced reptile habitats. Arising during construction phase and continuing throughout operational phase. | qualified ecologist.<br>▪ LEMP to include monitoring and review. |
| **Other Ecological Receptor:** Great Crested Newts | ▪ Increased likelihood of disturbance and accidental mortality through increased human activity. | **Negligible (not significant)**<br>P / D&I / LT | ▪ Include features to prevent entrapment in road infrastructure.<br>▪ Provide information to new residents.<br>▪ Continue management of new, retained and enhanced habitats. | **Negligible (not significant)**<br>Potentially P **beneficial** in LT for Great Crested Newts through improved wetland and terrestrial habitat provision. Arising during construction phase and continuing throughout operational phase. | ▪ Development and landscape design to be reviewed by a suitably qualified ecologist.<br>▪ LEMP to include monitoring and review. |
| **Other Ecological Receptor:** Invertebrates | ▪ Establishment of high-quality habitat in areas of informal open spaces as part of Site's green infrastructure (beneficial). | **Negligible (not significant)**<br>P / D&I / LT | ▪ Continue management of new, retained and enhanced habitats.<br>▪ Sensitive lighting design for the operational phase. | **Negligible (not significant)**<br>Potentially P beneficial in LT for invertebrates through improved wetland and terrestrial habitat | ▪ Development and landscape design, including lighting proposals, to be review by a suitably |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | | | | provision. Arising during construction phase and continuing throughout operational phase. | qualified ecologist.<br>▪ LEMP to include monitoring and review. |

Key to table:

**P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable**

**Table 17-4 – Summary of Effects of the Proposed Development on Landscape and Visual**

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Construction Phase** | | | | | |
| NCA 12 Low Weald | Change from predominantly agricultural land to a construction site, affecting a very small part of NCA 12. | **Negligible Adverse (not significant)** T / D / ST | CEMP | **Negligible Adverse (not significant)** T / D / ST | N/A |
| West Sussex Landscape Character Area H1 Central Low Weald | Change from predominantly agricultural land to a construction site, affecting a small part of LCA H1. | **Minor Adverse (not significant)** T / D / ST | CEMP | **Minor Adverse (not significant)** T / D / ST | N/A |
| Horsham District Landscape Character Area H1 Southwater and Christ's Hospital Farmlands | Change from predominantly agricultural land to a construction site, affecting a small part of LCA H1. | **Minor Adverse (not significant)** T / D / ST | CEMP | **Minor Adverse (not significant)** T / D / ST | N/A |
| Overall Site character | Change from agricultural fields to construction site. | **Major Adverse (significant)** T / D / ST | CEMP | **Major Adverse (significant)** T / D / ST | N/A |
| Site Landform | Localised changes to facilitate development platforms and drainage features. | **Moderate Adverse (significant)** T / D / ST | CEMP | **Moderate Adverse (significant)** T / D / ST | |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Site Land Use | Change from agricultural to a construction site. | **Major Adverse (significant)** T / D / ST | CEMP | **Major Adverse (significant)** T / D / ST | N/A |
| Site Vegetation | Vegetation loss limited to locations necessary to facilitate access and infrastructure requirements. | **Moderate Adverse (significant)** T / D / ST | CEMP | **Moderate Adverse (significant)** T / D / ST | N/A |
| Site Function | Change in site's agricultural land use as part of the setting to Listed Buildings, to that of a construction site. | **Minor - Moderate Adverse (significant)** T / D / ST | CEMP | **Minor - Moderate Adverse (significant)** T / D / ST | N/A |
| Walkers within proximity using bridleways SOW-1662, SOW-3568 (the Downs Link), footpaths SOW-1660, SOW-1658, SOW-1656, SOW-1655, SOW- 1628-3 through Car Park Site and main Site | Change from views of agricultural land to that of a construction site. | **Major Adverse (significant)** T / D / ST | CEMP | **Major Adverse (significant)** T / D / ST | N/A |
| Walkers within the local landscape from PRoW ITC-1651 to the west of the Site | Change from views of countryside to that including glimpses of a construction site | **Minor Adverse (not significant)** T / D / ST | CEMP | **Minor Adverse (not significant)** T / D / ST | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Transient users of Christ Hospital Station and car park | Change from views of agricultural land to that of a construction site. | **Moderate Adverse (significant)** T / D / ST | CEMP | **Moderate Adverse (significant)** T / D / ST | N/A |
| Transient users of Two Mile Ash Road | Change from rural fields and hedgerows to that of a construction site, framed by retained mature trees and hedgerows. | **Moderate Adverse (significant)** T / D / ST | CEMP | **Moderate Adverse (significant)** T / D / ST | N/A |
| Transient users of Worthing Road, Chessall Avenue and the roundabout junction to the A24 from Worthing Road | Change from views of agricultural land to that of a construction site. | **Moderate Adverse (significant)** T / D / ST | CEMP | **Moderate Adverse (significant)** T / D / ST | N/A |
| Transient users of Marlpost Road and Church Lane | Glimpses of the construction site and associated activities would be experienced, set behind the existing retained framework of trees and woodland. | **Negligible Adverse (not significant)** T / D / ST | CEMP | **Negligible Adverse (not significant)** T / D / ST | N/A |
| Residents immediately adjacent to the Site | Change from predominantly filtered views of agricultural land to filtered views of a construction site. A limited number of residents would additionally perceive the tree and hedgerow removals at the western and eastern boundaries. | **Moderate Adverse (significant)** T / D / ST | CEMP | **Moderate Adverse (significant)** T / D / ST | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Residents of Grade II* Listed Great House Farmhouse | Change from open views of agricultural land to open and partial views of a construction site. | **Major Adverse (significant)** T / D / ST | CEMP | **Major Adverse (significant)** T / D / ST | N/A |
| Residents of Grade II Listed College Farmhouse | Change from filtered views of agricultural land to filtered views of a construction site, set back behind retained green infrastructure. | **Minor Adverse (not significant)** T / D / ST | CEMP | **Minor Adverse (not significant)** | N/A |
| Those at Grade II Listed Holy Innocents Church and Christ Hospital School | Change from filtered views of agricultural land to filtered views of a construction site, set back behind retained green infrastructure. | **Minor Adverse (not significant)** | CEMP | **Minor Adverse (not significant)** | N/A |
| **Operational Phase** | | | | | |
| NCA 12 Low Weald | Change from predominantly agricultural land to a new neighbourhood and open space, affecting a very small part of NCA 12. | **Minor Adverse (not significant)** P / D / LT | LEMP – outlining long-term maintenance and management measures required. | **Minor Adverse (not significant)** P / D / LT | N/A |
| West Sussex Landscape Character Area H1 Central Low Weald | Change from predominantly agricultural land to a new neighbourhood and open space, affecting a small part of LCA H1. | **Minor Adverse (not significant)** P / D / LT | LEMP | **Minor Adverse (not significant)** P / D / LT | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Horsham District Landscape Character Area H1 Southwater and Christ's Hospital Farmlands | Change from predominantly agricultural land to a new neighbourhood and open space, affecting a small part of LCA H1. | **Minor Adverse (not significant)** P / D / LT | LEMP | **Minor Adverse (not significant)** P / D / LT | N/A |
| Overall Site character | Change from agricultural fields to a new neighbourhood and open space. | **Major Adverse (significant)** P / D / ST | LEMP and maturation of the existing and proposed green infrastructure | **Moderate Adverse (significant)** P / D / ST | N/A |
| Site Landform | No further substantial changes are anticipated during the operational phase. | **Moderate Adverse (significant)** P / D / LT | LEMP | **Moderate Adverse (significant)** P / D / LT | N/A |
| Site Land Use | Change from agricultural to a new neighbourhood and open space. | **Major Adverse (significant)** P / D / ST | LEMP | **Major Adverse (significant)** P / D / ST | N/A |
| Site Vegetation | No further tree loss anticipated during the operational phase. Maturation of vegetation planted during the construction period. | **Moderate Adverse (significant)** P / D / ST | LEMP and maturation of the existing and proposed green infrastructure | **Moderate Beneficial (significant)** P / D / ST | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Site Function | Change in site's agricultural land use as part of the setting to Listed Buildings, to that of a new neighbourhood set amongst a robust network of green infrastructure and open space. | **Minor - Moderate Adverse (significant)** P / D / ST | LEMP | **Minor Adverse (not significant)** P / D / ST | N/A |
| Walkers within proximity using bridleways SOW-1662, SOW-3568 (the Downs Link), footpaths SOW-1660, SOW-1658, SOW-1656, SOW-1655, SOW- 1628-3 through Car Park Site and main Site | Change from views of agricultural land to that of a new neighbourhood and open space. | **Major Adverse (significant)** P / D / ST | LEMP and maturation of the existing and proposed green infrastructure | **Moderate Adverse (significant)** P / D / ST | N/A |
| Walkers within the local landscape from PRoW ITC-1651 to the west of the Site | Change from views of countryside to that including glimpses of a new neighbourhood. | **Minor Adverse (not significant)** P / D / ST | LEMP and maturation of the existing and proposed green infrastructure | **Minor Adverse (not significant)** P / D / ST | N/A |
| Transient users of Christ Hospital Station and car park | Change from views of agricultural land to that of a new car park. | **Moderate Adverse (significant)** P / D / ST | LEMP and maturation of the existing and proposed green infrastructure | **Moderate Adverse (significant)** P / D / ST | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Transient users of Two Mile Ash Road | Change from rural fields and hedgerows to that of the new neighbourhood, framed by retained mature trees and hedgerows. | **Minor Adverse (not significant)** P / D / ST | LEMP and maturation of the existing and proposed green infrastructure | **Minor Adverse (not significant)** P / D / ST | N/A |
| Transient users of Worthing Road, Chessall Avenue and the roundabout junction to the A24 from Worthing Road | Change from views of agricultural land to that of the new neighbourhood, framed by mature trees and hedgerows. | **Moderate Adverse (significant)** P / D / ST | LEMP and maturation of the existing and proposed green infrastructure | **Moderate Adverse (significant)** P / D / ST | N/A |
| Transient users of Marlpost Road and Church Lane | Glimpses of the new neighbourhood would be experienced, set behind the existing retained framework of trees and woodland. | **Negligible Adverse (not significant)** P / D / ST | LEMP and maturation of the existing and proposed green infrastructure | **Negligible Adverse (not significant)** P / D / ST | N/A |
| Residents immediately adjacent to the Site | Change from predominantly filtered views of agricultural land to that of the new neighbourhood. | **Major Adverse (significant)** P / D / ST | LEMP and maturation of the existing and proposed green infrastructure | **Moderate Adverse (significant)** P / D / ST | N/A |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Residents of Grade II* Listed Great House Farmhouse | Change from open views of agricultural land to open and partial views of the new neighbourhood, set amongst a robust green infrastructure framework, which will have matured by year 15. | **Major Adverse (significant)** P / D / ST | LEMP and maturation of the existing and proposed green infrastructure | **Moderate Adverse (significant)** P / D / ST | N/A |
| Residents of Grade II Listed College Farmhouse | Change from filtered views of agricultural land to filtered views of the new neighbourhood, set back behind retained green infrastructure and open space. | **Minor Adverse (not significant)** P / D / ST | LEMP and maturation of the existing and proposed green infrastructure | **Minor Adverse (not significant)** P / D / ST | N/A |
| Those at Grade II Listed Holy Innocents Church and Christ Hospital School | Change from filtered views of agricultural land to filtered views of the new neighbourhood, set back behind retained green infrastructure. | **Minor Adverse (not significant)** P / D / ST | LEMP and maturation of the existing and proposed green infrastructure | **Minor Adverse (not significant)** P / D / ST | N/A |

Key to table:

**P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable**

**Table 17-5 – Summary of Effects of the Proposed Development on Noise and Vibration**

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Embedded/Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Construction Phase** | | | | | |
| Sample residential receptors surrounding the Site. | Construction noise effects from on-site activities (worst-case scenario). | **Moderate/Major Adverse (significant)**<br>T / D / ST | ▪ Best Practicable Means (BPM) mitigation to be applied site-wide.<br>▪ 2.4m site hoarding to be installed. | **Moderate/Major Adverse (significant)**<br>T/D/ST | None Required. |
| Sample residential receptors surrounding the Site. | Construction noise effects from on-site activities (average scenario). | **Negligible (not significant)**<br>T / D / ST | ▪ BPM mitigation to be applied site-wide.<br>▪ 2.4m site hoarding to be installed. | **Negligible (not-significant)**<br>T/D/ST | None Required. |
| Receptors within 25m of vibratory rolling construction activity. | Construction noise effects from on-site activities. | **Moderate/Major Adverse (significant)**<br>T / D / ST | ▪ Vibratory rollers not to be started or stopped within 25m of residential receptors. | **Minor Adverse (not significant)**<br>T/D/ST | None Required. |
| **Operational Phase** | | | | | |
| Residential receptors fronting surrounding road network. | Development generated road traffic noise effects. | **Not Significant**<br>P / I / LT | None | **Not Significant**<br>P / I / LT | None Required. |
| Receptors at Chessall Avenue. | Noise from Spine Road. | **Major Adverse (significant)** | ▪ Traffic mitigation measures to be considered (such | **Moderate Adverse (significant)** | None Required. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Embedded/Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | | P / D / LT | as 20mph road design speed) at reserved matters stage for the Secondary Road in order to reduce noise levels at Chessal Avenue. | P / D / LT | |

Key to table:

**P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable**

**Table 17-6 – Summary of Effects of the Proposed Development on Socio-Economics**

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Construction Phase** | | | | | |
| Local and regional (West Sussex) economy | Construction employment generation | **Minor Beneficial (not significant)** T / D / LT | None required | **Minor Beneficial (not significant)** T / D / LT | None required |
| **Operational Phase** | | | | | |
| Local and regional (West Sussex) economy | Operational employment generation | **Minor Beneficial (not significant)** P / D / LT | None required | **Minor Beneficial (not significant)** P / D / LT | None required |
| Local and regional (West Sussex) economy | Additional local spend | **Minor Beneficial (not significant)** P / D / LT | None required | **Minor Beneficial (not significant)** P / D / LT | None required |
| Horsham District housing stock | Housing provision | **Moderate Beneficial (significant)** P / D / LT | None required | **Moderate Beneficial (significant)** P / D / LT | None required |
| Horsham District affordable housing stock | Affordable housing provision | **Moderate Beneficial (significant)** P / D / LT | None required | **Moderate Beneficial (significant)** | None required |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | | | | P / D / LT | |
| Early years education provision | Demand for early years education places | **Negligible (not significant)** P / D / LT | None required | **Negligible (not significant)** P / D / LT | None required |
| Primary education provision | Demand for primary education places | **Minor Beneficial (not significant)** P / D / LT | None required | **Minor Beneficial (not significant)** P / D / LT | None required |
| Secondary education provision | Demand for secondary education places | **Moderate Beneficial (significant)** P / D / LT | None required | **Moderate Beneficial (significant)** P / D / LT | None required |
| Primary healthcare provision | Demand for primary healthcare | **Minor Adverse (not significant)** P / D / LT | CIL contributions which are proportionate to the demand generated by the Proposed Development to be agreed between the | **Negligible (not significant)** P / D / LT | None required |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | | | Applicant and Horsham District Council | | |
| Open space provision | Demand for open space | **Moderate Beneficial (significant)**<br>P / D / LT | None required | **Moderate Beneficial (significant)**<br>P / D / LT | None required |
| Play space provision | Demand for play space | **Minor Beneficial (not significant)**<br>P / D / LT | None required | **Minor Beneficial (not significant)**<br>P / D / LT | None required |

Key to table:

**P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable**

**Table 17-7 – Summary of Effects of the Proposed Development on Traffic and Transport**

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Construction Phase** | | | | | |
| **NMUs of pedestrian and cycling facilities along Link 2** - Worthing Road – Hop Oast Roundabout to Southwater Street | Severance, NMU delay, NMU amenity, Fear and intimidation | **Negligible Adverse (not significant)**<br>T / D / ST | N/A | **Negligible Adverse (not significant)**<br>T / D / ST | N/A |
| **Operational Phase** | | | | | |
| **NMUs of pedestrian and cycling facilities along Link 1, 2B, 3B, 4, 6C, 11** | Severance | **Negligible Adverse (not significant)**<br>P / D / MT | Full Travel Plan in place and delivered.<br>Conditioned within planning permission. | **Negligible Adverse (not significant)**<br>P / D / MT | Travel Plan monitoring for 5 years from occupation |
| **NMUs of pedestrian and cycling facilities along Link 2A, 6B, 7, 8, 9, 12** | Severance | **Minor Adverse (not significant)**<br>P / D / MT | Full Travel Plan in place and delivered. Conditioned within planning permission. | **Minor Adverse (not significant)**<br>P / D / MT | Travel Plan monitoring for 5 years from occupation |
| **NMUs of pedestrian and cycling facilities along Link 3A** | Severance | **Moderate Adverse (significant)**<br>P / D / MT | Full Travel Plan in place and delivered. Conditioned within planning permission. | **Moderate Adverse (significant)**<br>P / D / MT | Travel Plan monitoring for 5 years from occupation |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **NMUs of pedestrian and cycling facilities along Link 2C, 5A, 5B, 10** | Severance | **Negligible Beneficial (not significant)** P / D / MT | Full Travel Plan in place and delivered. Conditioned within planning permission. | **Negligible Beneficial (not significant)** P / D / MT | Travel Plan monitoring for 5 years from occupation |
| **NMUs of pedestrian and cycling facilities along Link 6A** | Severance | **Minor Beneficial (not significant)** P / D / MT | Full Travel Plan in place and delivered. Conditioned within planning permission. | **Minor Beneficial (not significant)** P / D / MT | Travel Plan monitoring for 5 years from occupation |
| **NMUs of pedestrian and cycling facilities along Link 1, 2A, 2B, 3A, 3B, 4, 6B, 6C, 7, 8, 9, 11, 12** | NMU delay | **Negligible Adverse (not significant)** P / D / MT | Full Travel Plan in place and delivered. Conditioned within planning permission. | **Negligible Adverse (not significant)** P / D / MT | Travel Plan monitoring for 5 years from occupation |
| **NMUs of pedestrian and cycling facilities along Link 2C, 5A, 5B, 6A, 10** | NMU delay | **Negligible Beneficial (not significant)** P / D / MT | Full Travel Plan in place and delivered. Conditioned within planning permission. | **Negligible Beneficial (not significant)** P / D / MT | Travel Plan monitoring for 5 years from occupation |
| **NMUs of pedestrian and cycling facilities along Link 1, 2B, 3B, 4, 6C, 9, 11, 12** | NMU amenity and Fear and intimidation | **Negligible Adverse (not significant)** P / D / MT | Full Travel Plan in place and delivered. Conditioned within planning permission. | **Negligible Adverse (not significant)** P / D / MT | Travel Plan monitoring for 5 years from occupation |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **NMUs of pedestrian and cycling facilities along Link 2A, 8** | NMU amenity and Fear and intimidation | **Minor Adverse (not significant)** P / D / MT | Full Travel Plan in place and delivered. Conditioned within planning permission. | **Minor Adverse (not significant)** P / D / MT | Travel Plan monitoring for 5 years from occupation |
| **NMUs of pedestrian and cycling facilities along Link 3A** | NMU amenity and Fear and intimidation | **Moderate Adverse (significant)** P / D / MT | Full Travel Plan in place and delivered. Conditioned within planning permission. | **Moderate Adverse (significant)** P / D / MT | Travel Plan monitoring for 5 years from occupation |
| **NMUs of pedestrian and cycling facilities along Link 2C, 5A, 5B, 6A, 7, 10** | NMU amenity and Fear and intimidation | **Negligible Beneficial (not significant)** P / D / MT | Full Travel Plan in place and delivered. Conditioned within planning permission. | **Negligible Beneficial (not significant)** P / D / MT | Travel Plan monitoring for 5 years from occupation |
| **NMUs of pedestrian and cycling facilities along Link 6B** | NMU amenity and Fear and intimidation | **Minor Beneficial (not significant)** P / D / MT | Full Travel Plan in place and delivered. Conditioned within planning permission. | **Minor Beneficial (not significant)** P / D / MT | Travel Plan monitoring for 5 years from occupation |

Key to table:

**P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable**

**Table 17-8 – Summary of Effects of the Proposed Development on Water Resources, Flood Risk and Drainage**

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Construction Phase** | | | | | |
| Site Workers | Flood risk | **Moderate Adverse (significant)** T / D / ST | ▪ Adherence to CEMP<br>▪ Temporary works drainage designs | **Minor Adverse (not significant)** T / D / ST | Ongoing monitoring of adherence to CEMP during construction phase by construction teams |
| Receiving Watercourses – The Gill | Water quality | **Moderate Adverse (significant)** T / D / ST | ▪ Adherence to CEMP<br>▪ Temporary works pollution prevention measures | **Minor Adverse (not significant)** T / D / ST | Ongoing monitoring of adherence to CEMP during construction phase by construction teams |
| Receiving Watercourses – The River Arun headwaters | Water quality | **Moderate to Major Adverse (significant)** T / D / ST | ▪ Adherence to CEMP<br>▪ Temporary works pollution prevention measures | **Minor Adverse (not significant)** T / D / ST | Ongoing monitoring of adherence to CEMP during construction phase by construction teams |
| SWS Foul Drainage Network | Capacity overload & flood risk | **Moderate Adverse (significant)** T / D / ST | ▪ Adherence to CEMP<br>▪ Temporary drainage connection applications agreed with SWS | **Minor Adverse (not significant)** T / D / ST | Ongoing monitoring of adherence to CEMP during construction phase by construction teams |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Operational Phase** | | | | | |
| End Users of the Site | Flood risk | **Moderate Adverse (significant)** P / D / LT | ▪ outline surface water drainage strategy incorporating SuDS to limit discharge to existing environment to greenfield runoff rates<br>▪ potential for amenity value | **Negligible Adverse (not significant)** P / D / LT | • Maintained by drainage network operational maintenance co., including incident response<br>• Monitoring of performance by Management Co. |
| Receiving Watercourses – The Gill | Water quality | **Moderate Adverse (significant)** P / D / LT | ▪ outline surface water drainage strategy incorporating SuDS to provide water quality balance<br>▪ water quality balance<br>▪ removal of polluting agricultural activities | **Negligible Adverse (not significant)** P / D / LT | • Maintained by drainage network operational maintenance co., including incident response<br>• Monitoring of performance by Management Co. |
| Receiving Watercourses – The | Water quality | **Moderate to Major Adverse** | ▪ outline surface water drainage strategy | **Negligible Adverse (not significant)** | • Maintained by drainage network operational |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| River Arun headwaters | | **(significant)**<br>P / D / LT | incorporating SuDS to provide water quality balance<br>▪ water quality balance<br>▪ removal of polluting agricultural activities | P / D / LT | maintenance co., including incident response<br>• Monitoring of performance by Management Co. |
| SWS Foul Drainage Network | Capacity overload & flood risk | **Moderate Adverse**<br>**(significant)**<br>P / D / LT | ▪ capacity check by SWS to confirm capacity subject to reinforcement works<br>▪ | **Minor Adverse**<br>**(not significant)**<br>P / D / LT | • SWS to carry out reinforcement works and then manage and monitor performance of their network to receive development flows |

Key to table:

**P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable**

**Table 17-9 - Summary of Effects of the Proposed Development on Ground Conditions and Contamination**

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Construction Phase** | | | | | |
| Site Workers | Exposure through dermal contact, ingestion and inhalation pathways | **Minor Adverse**<br>T / D / ST | Construction activities will be managed through:<br>▪ the use of appropriate PPE;<br>▪ task-specific risk assessments;<br>▪ safe systems of work; and<br>▪ Asbestos Management Plan for management of potential asbestos identified in Made Ground, prepared by an accredited specialist. | **Negligible**<br>T / I / ST | A Discovery Strategy will be in place during construction to address any unforeseen contamination or ground conditions, including regulatory consultation where required. |
| Adjacent Land Users | Adjacent land users are unlikely to be directly affected; potential off-site dust migration during construction represents a low risk, with no exceedances identified to date, subject to further investigation. | **Minor Adverse**<br>T / I / ST | Construction activities will be managed through:<br>▪ A Construction Environmental Management Plan (CEMP) will be implemented for the construction phase;<br>▪ Dust generation will be controlled through measures such as damping down, wheel | **Negligible**<br>T / I / ST | No negative residual effects after additional mitigation. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | | | washing and road sweeping;<br>▪ Soil stockpile heights will be managed to minimise wind-blown dust; and<br>▪ Any contaminated or surplus material will be disposed of off-site in accordance with Duty of Care requirements. | | |
| Groundwater | Contamination pathways could be created during the construction phase causing pollutants to impact the aquifer.<br><br>The Horsham Stone Member beneath the Site is classified as Secondary A aquifer and would be a receptor. | **Minor Adverse**<br>T / I / ST | ▪ A Construction Environmental Management Plan (CEMP) will be implemented, including fuel storage controls and a borehole management scheme to manage potential contamination pathways during construction. | **Negligible**<br>T / I / ST | A baseline will be created and compared to before, during and post construction. |
| Surface Water | Surface water was identified on-site in the form of small ponds, drainage ditches and streams.<br><br>No surface water features are present on | **Moderate Adverse**<br>T / I / ST | Surface water run-off will need to be managed during construction. | **Negligible**<br>T / I / ST | A baseline will be created and compared to before, during and post construction. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | the part of the Site adjacent to Christ's Hospital Station. The closest water feature to the Site is a narrow stream running south of Sparrow Copse. | | | | |
| **Operational Phase** | | | | | |
| End Users | Future users may come into contact with soils within gardens and soft landscaping, and potentially be affected by ground gases if present; therefore, soil suitability and ground gas risks require consideration for the proposed end use. | **Minor Adverse**<br>P / D / LT | Further investigation and ground gas monitoring will inform any required remediation,<br>▪ Soil cover systems;<br>▪ Removal of made ground, ground gas protection measures or; and<br>▪ Appropriate service pipe selection. | **Minor Beneficial**<br>P / I / LT | No residual effects are anticipated post-construction, subject to verification reporting confirming completion of all remedial works. |
| Soft Landscaping | Soft landscaping will form part of the development, with users potentially coming into contact with soils; if soils are unsuitable or residual contamination remains, this could affect human health, planting success and | **Minor Adverse**<br>P / D / LT | Any imported soils must be of suitable chemical and physical quality for the proposed end use.<br>Further investigation and ground gas monitoring will inform any required remediation, | **Minor Beneficial**<br>P / I / LT | No residual effects are anticipated post-construction, subject to verification reporting confirming completion of all remedial works. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | intended land use, with ground gas migration also presenting a potential risk if not adequately mitigated. | | ▪ Soil cover systems; and<br>▪ Removal of made ground and ground gas protection measures. | | |
| Built Environment | There could be a risk of damage to foundations, water supply pipes and infrastructure as the Weald Clay Formation may contain elevated concentrations of sulphate, pyrite, and gypsum. | **Minor Adverse**<br>P / D / LT | Further ground investigation will inform foundation design requirements, including the potential need for sulphate-resistant concrete and protective water service pipes | **Negligible**<br>P / D / LT | No residual effects are anticipated post-construction, subject to verification reporting confirming completion of all remedial works. |
| Groundwater | If left unremediated, contaminants from tanks, historic landfill or made ground could leach into groundwater within the underlying Secondary A aquifer in parts of the Site where the underlying geology is Horsham Stone. | **Minor Adverse**<br>T / I / LT | Potential sources of contamination should be remediated during the construction phase to remove the long-term risk. | **Negligible**<br>T / I / LT | Groundwater monitoring wells will be installed pre-construction to establish baseline water quality, with periodic monitoring during construction and post-completion |
| Surface Water | If left unremediated, contaminants from tanks, historic landfill or made ground could | **Moderate Adverse**<br>T / I / MT | Potential sources of contamination should be remediated during the | **Negligible**<br>T / I / MT | Surface water quality will be monitored to establish a pre-construction |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | leach into on-site surface water features, including ponds, drainage ditches and streams. | | construction phase to remove the long-term risk. | | baseline, with periodic monitoring during construction and post-completion following remediation. |
| Agricultural Land | Agricultural land will be taken out of production. This land has been graded as not best and most versatile – Grade 3b | **Moderate Adverse** P / D / LT | None | **Negligible** P / D / LT | None. This land has been assessed as Grade 3b and is therefore not considered as best and most versatile land. |

Key to table:

**P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable**

**Table 17-10 – Summary of Effects of the Proposed Development on Greenhouse Gases**

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Embedded/Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Construction and Operation Phase** | | | | | |
| Global Climate | Whole Life Embodied Carbon (WLEC) emissions due to extraction of raw materials, manufacturing and transport; construction transport; site construction activities; repair and replacement of materials and systems during the operation phase of the buildings and carbon impact at the end of life of the buildings. | **Minor Adverse (not significant)**<br>P / D&I / LT | Whole Life Embodied Carbon reduction measures including optimising material usage, use of low carbon materials and reducing construction waste. Embedding end-of-life measure in the design stage should be explored in later design stages. | **Minor Adverse (not significant)**<br>P / D&I / LT | It is recommended that a Whole Life Embodied Carbon Assessment and Options Appraisal is undertaken at the detailed design stage to monitor the performance of the project against benchmarks. |
| **Operational Phase** | | | | | |
| Global Climate | Operational carbon emissions due to energy and water use. | **Minor Adverse (significant)**<br>P / D / LT | Future Ready approach to benefit from future grid decarbonisation. | **Minor Adverse (significant)**<br>P / D / LT | Operational energy performance assessment; in-use monitoring. |

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Embedded/Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| Global Climate | Operational Transport emissions | **Moderate Adverse (significant)**<br>P / D&I / LT | Embedding sustainable transport in the design; Future Ready approach to benefit from increasing future EV use. | **Minor Adverse (significant)**<br>P / D&I / LT | Design should be reviewed to ensure that the development includes measures to reduce the need to travel, encourage walking and cycling and include good accessibility to public transport and other forms of sustainable transport; and ensure access to services and facilities within walking distance. |

Key to table:

**P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable**

**Table 17-11 – Summary of Effects of the Proposed Development on Cumulative Effects**

| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Embedded/Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| **Construction Phase** | | | | | |
| Residents immediately adjacent to the Site | Effect interactions as a result of noise and vibration, landscape and visual and socio-economic effects. | **Moderate adverse to Major adverse (significant)** | No additional mitigation beyond the measures identified in the individual technical assessments is proposed | **Moderate adverse (significant)** | No monitoring is proposed. |
| Construction workers at the Site | Effect interactions as a result of noise and vibration, and flood risk | **Minor adverse (not significant)** | No additional mitigation beyond the measures identified in the individual technical assessments is proposed | **Minor adverse (not significant)** | No monitoring is proposed. |
| **Operational Phase** | | | | | |
| Transient users of Worthing Road, Chessall Avenue and the roundabout junction to the A24 from Worthing Road | Effect interactions as a result of visual amenity, fear and intimation impacts. | **Moderate Adverse (significant)** | No additional mitigation beyond the measures identified in the individual technical assessments is proposed | **Moderate Adverse (significant)** | No monitoring is proposed. |
| Residents immediately adjacent to the Site | Effects interactions as a result of traffic generated | **Moderate Adverse (Significant)** | No additional mitigation beyond the measures identified in the individual technical | **Moderate Adverse (Significant)** | No monitoring is proposed. |

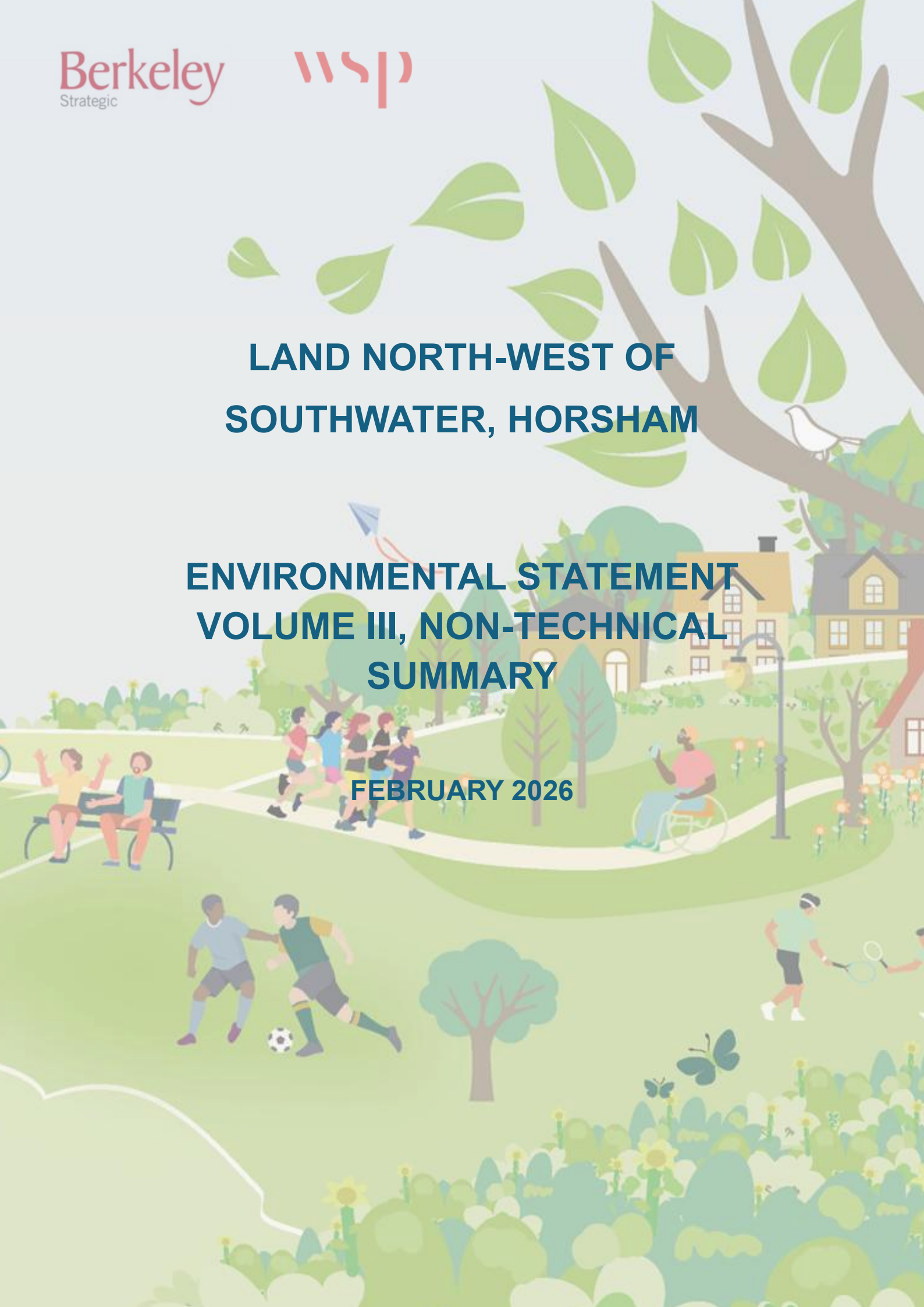
| Receptor | Potential Effects | Significance of Effects Prior to Mitigation/Enhancement | Embedded/Additional Mitigation | Residual Effects | Monitoring |
|---|---|---|---|---|---|
| | noise and vibration impacts and visual amenity impacts. | | assessments is proposed | | |

Key to table:

**P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable**

WSP House
70 Chancery Lane
London
WC2A 1AF

**wsp.com**



# LAND NORTH-WEST OF SOUTHWATER, HORSHAM

# ENVIRONMENTAL STATEMENT VOLUME III, NON-TECHNICAL SUMMARY

**FEBRUARY 2026**

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All figures are indicative only unless specifically marked for approval.

# 1 INTRODUCTION

## 1.1 OVERVIEW

1.1.1. This document is the Non-technical Summary (NTS) of the Environmental Statement (ES) which has been prepared to support an outline planning application submitted to Horsham District Council (HDC) by Berkeley Strategic Land Ltd (Berkeley) (hereafter referred to as 'the Applicant').

1.1.2. The Applicant is seeking permission for a residential-led mixed-use development ('the Proposed Development') located to the north-west of Southwater, West Sussex. It is approximately 2km south of the town of Horsham.

1.1.3. The Site is identified in **Figure 1-1**. The Site, approximately 116.7ha in area, is located on an area of predominantly greenfield land, with a number of movement corridors (Public Rights of Way (PRoW)) spanning the area, as well as Great House Farmhouse, a Grade II* listed building, adding to the wider character setting. It is made up of the 115.36ha 'Main Site' and the 1.34ha Railway parcel to the north for the proposed car park adjacent to Christ's Hospital Station (the 'North Site').

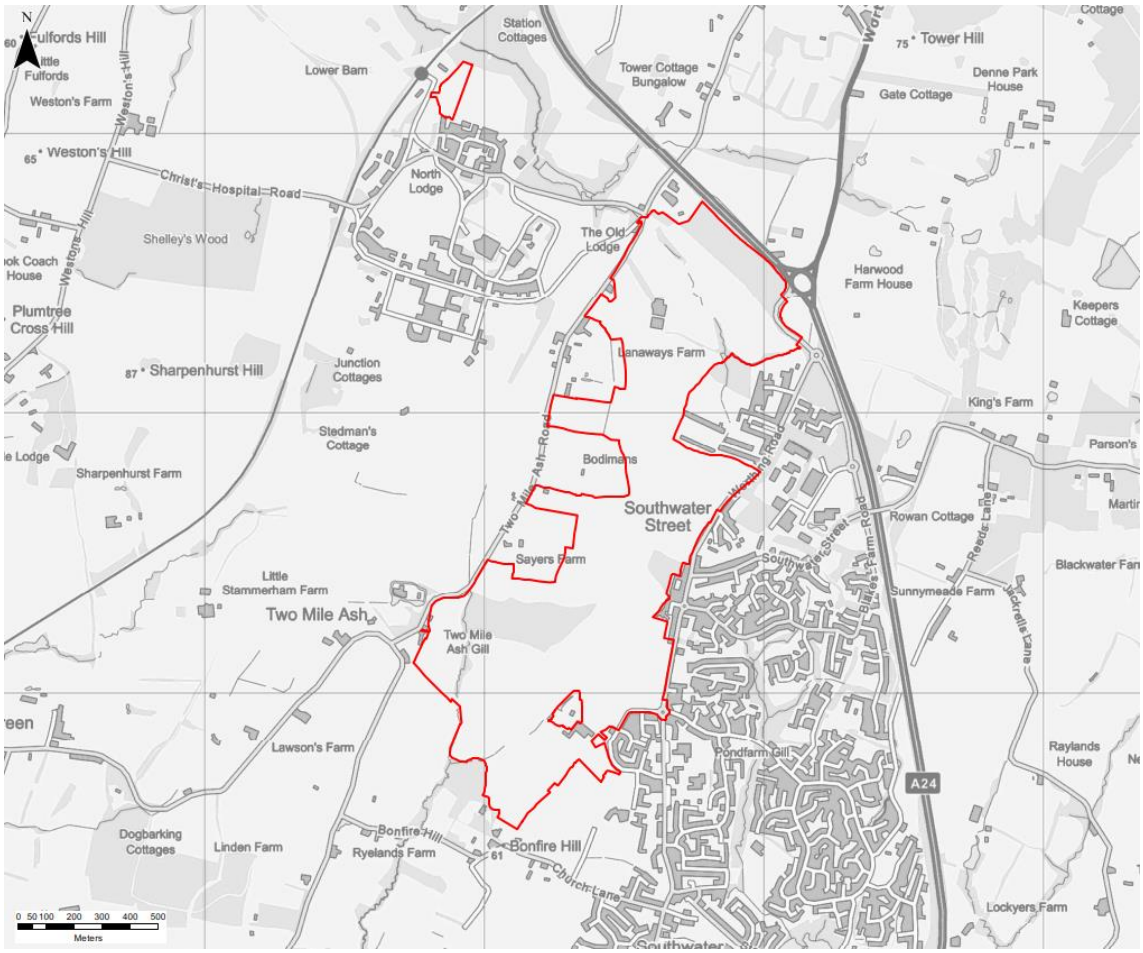


**Figure 1-1 - Site Location Plan**

1.1.4. Berkeley is seeking outline planning permission for a phased, residential-led mixed development scheme that:

- Connects people to nature through a connected green network linking existing woodlands and habitats, enhancing biodiversity and ecological resilience;
- Provides a range of residential homes including later living homes, providing a mix of affordable rent, shared ownership and market homes;
- Provides new business space, sports areas and community facilities; and
- Creates a lasting place for generations.

## 1.2 WHAT IS AN ENVIRONMENTAL IMPACT ASSESSMENT?

1.2.1. Environmental Impact Assessment (EIA) is a legal requirement for certain types of projects that have the potential to cause significant environmental effects. It is undertaken in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the 'EIA Regulations'). The process identifies potential significant environmental effects of a project or proposal and describes how these environmental effects can be mitigated.

## 1.3 WHAT IS THE PURPOSE OF THIS DOCUMENT?

1.3.1. This document is the **Volume 3: Non-Technical Summary** (NTS) of the ES and has been prepared using non-technical language. The ES is presented in the following volumes all of which should be read together:

- **Volume 1: Main Text and Figures;**
- **Volume 2: Technical Appendices; and**
- **Volume 3: Non-Technical Summary.**

## 1.4 HOW IS THIS DOCUMENT SET OUT?

1.4.1. This Non-technical Summary is structured as follows:

- What are the existing conditions at the Site and the surrounding area? (**Section 2**);
- What is the Proposed Development? (**Section 3**);
- What alternatives have been considered? (**Section 4**);
- What is the approach to undertaking an EIA? (**Section 5**);
- What will the residual effects of the Proposed Development be following mitigation (**Section 6**); and
- Further information (**Section 7**).

# 2 THE SITE AND EXISTING CONDITIONS

## 2.1 OVERVIEW OF THE EXISTING SITE

2.1.1. The Site comprises an area of approximately 116.7ha and is located within the administrative area of HDC. The Ordnance Survey Grid Reference for the approximate centre of the Site is National Grid Reference TQ154274. The HDC boundary includes the wards of Southwater North, and Southwater South & Shipley, of which the Site traverses.

2.1.2. The existing land use within the Site is primarily for agricultural purposes. The Site is separated into two sections – the 'Main Site' and the 'North Site' which are identified in **Figure 2-1** below.

2.1.3. The Main Site is bounded by the A24 to the north; Bonfire Hill with associated residential properties and Kirsty's Wood to the south; Marlpost Road and Two-Mile Ash Road and associated residential properties to the west and Worthing Road and industrial units to the east, beyond which is the settlement of Southwater.

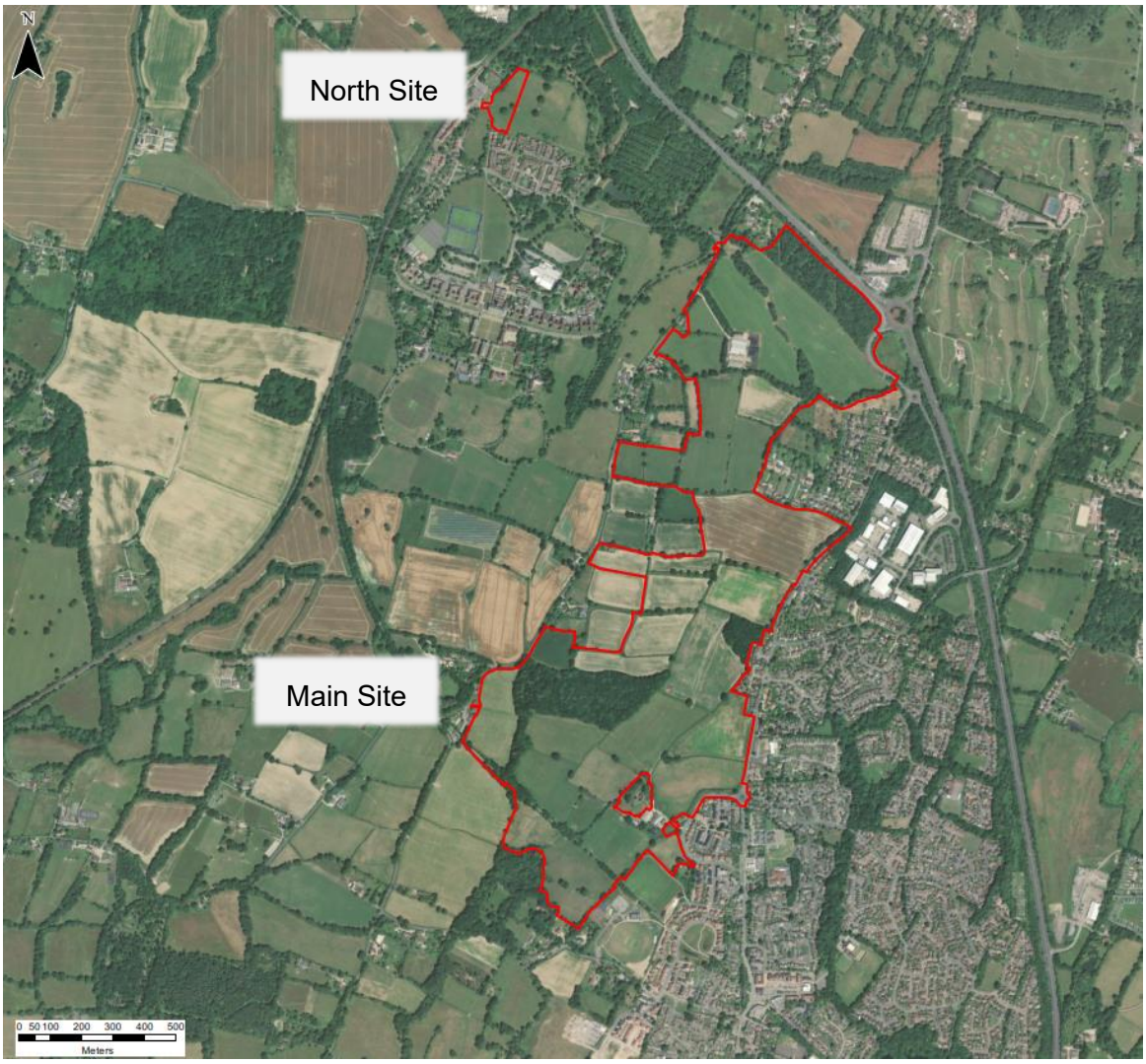


**Figure 2-1 - Aerial View of the Site**

2.1.4. The North Site comprises agricultural land with scattered trees. This parcel is bounded by agricultural land to the east, woodland to the north, residential houses associated with Barnes Wallis Avenue to the south and the Christ's Hospital Station car park and residential houses associated with Station Road to the west.

## 2.2 SURROUNDING LAND USES

2.2.1. The surrounding land uses are predominantly agricultural and residential with areas of retail, cultural, commercial and industrial within the area. The below section provides an overview of the current land uses of the Proposed Development.

### TRANSPORT AND ACCESS

2.2.2. The Main Site is adjacent (south) of the A24 and Worthing Road (to the east) which provides a vehicular link to Horsham via the B2237 (Worthing Road). The nearest railway station to the Proposed Development is Christ's Hospital, which is located adjacent to the North Site (as shown on **Figure 2-1** above).

2.2.3. The Downs Link, a long-distance bridleway which follows the route of a disused railway line and is used by walkers, cyclists and horse riders, runs through the southern portion of the Main Site.

2.2.4. There are several Public Rights of Way (PRoWs) located within and surrounding the Main Site which include 7 footpaths and 4 bridleways. There are a further two PRoWs within and surrounding the North Site.

2.2.5. The local transport network consists of the A24, Church Lane, Two Mile Ash Road and Tower Hill, Christ's Hospital Road and Weston's Hill, Southwater Street and Chessall Avenue, Fulford's Road, Blackbridge Lane and Hill Farm Lane. The A24 is the most notable road of the network as it is a strategic road providing connections to the wider local and national strategic highway network, including the A264, A272 and A27. The section of the A24 in the vicinity of Southwater is a lit, derestricted dual carriageway and provides access to Worthing Road via an at-grade, priority-controlled roundabout (the Hop Oast roundabout).

2.2.6. National Cycle Network (NCN) Route 223 (the 'Downs Link') is broadly located to the south and west of the Site and connects Chertsey to Shoreham-by-sea via Guildford. Part of the route also operates through the southern part of the Site itself. This route follows a disused railway line and is used by cyclists, walkers and horse riders.

2.2.7. The route in Chertsey (to the north) provides connections to NCN Route 4 and to the south, the route connects to NCN Route 2 in Shoreham. The sections of the route locally to the Site also incorporate PRoWs 1642 and 3568 (a section of the 'Downs Link'), which are classified as bridleways.

### AIR QUALITY

2.2.8. The Site is located in an area where the air quality is generally good. The air quality in the area is mainly influenced by emissions from road traffic using the A24, Worthing Road and Two Mile Ash Road. There are no industrial pollution sources that are likely to noticeably influence local air quality at the Site.

2.2.9. The nearest Air Quality Management Area to the Site is located 6.8km southwest of the Site and is declared due to exceedances of the annual mean nitrogen dioxide ($NO_2$) objective. The local

monitoring undertaken by HDC shows that $NO_2$ concentrations monitored near the Site are well below the air quality objective. Furthermore, coarse and fine particulate matter ($PM_{10}$ and $PM_{2.5}$ respectively) concentrations monitored at the closest automatic monitoring station shows that concentrations recorded at this location are well the annual mean $PM_{10}$ and $PM_{2.5}$ objectives, as well as the 24-hour mean $PM_{10}$ objective.

2.2.10. Pollution concentrations are well below the relevant UK Air Quality Strategy objectives for human health on the Site itself and in the local area.

## CULTURAL HERITAGE

2.2.11. The Site has mainly been agricultural land throughout its recorded history, comprising predominately arable land with adjacent copses and tree belts forming part of the historic land divisions.

### Built Heritage

2.2.12. There are no designated built heritage assets within the Site, although the small group of barns associated with Great House Farmhouse are within the Site boundary which are regarded as non-designated heritage assets. Great House Farmhouse, a Grade II* listed building, is surrounded by the Site on all sides but is not within the Site boundary. The rural, medieval landscape setting of Great House Farmhouse and other nearby heritage assets is an important part of what gives these buildings their significance.

2.2.13. Within a 500m area of the Site boundary, a further 13 Grade II listed buildings and 11 non-designated heritage assets were identified. One Parish Heritage Asset lies to the west of the Site, while two lie to the east. Two Grade II* listed buildings at Christ's Hospital School, located just beyond the study area to the northwest, have additionally been included to ensure a fully comprehensive assessment of potential effects of development to the historic built environment.

## ARCHAEOLOGY

2.2.14. The Site has a moderate to high potential for deposits of earlier prehistoric, later prehistoric (Iron Age) and Romano-British and post-medieval date, and a low to moderate potential for deposits dating to the Anglo-Saxon and Medieval periods within the Site, based on historic discoveries within the Main Site and in the wider area, including the fields immediately adjacent. The significance of any such remains, where present are likely to be of local or regional significance.

2.2.15. The southern portion of the Main Site lies within an Archaeological Notification Area (ANA), which are areas that indicate the existence, or probably existence, of archaeological heritage assets.

2.2.16. In terms of designated heritage assets of archaeological interest, no World Heritage Sites, Scheduled Monuments, Registered Parks and Gardens, Conservation Areas or Historic Battlefields lie on or within the Site. The nearest Scheduled Monuments are located approximately 1.7km to the north-east and 2km to the west of the Site which have been scoped out.

## ECOLOGY AND BIODIVERSITY

2.2.17. The Main Site comprises a series of arable fields, species-poor semi-improved grassland fields, and improved grassland fields bordered by hedgerows, treelines, and fence lines. Other habitats present include areas of broadleaved woodland, mixed woodland, and tall ruderal vegetation. In addition, Marlpost Gill flows in a southerly direction through the west of this area and a second stream flows east to west through the north. Six veteran trees are present within the Main Site and three of the woodlands are included on Natural England's Inventory, namely:

- Courtland Wood and the neighbouring Two Mile Ash Gill located on the western boundary of the Main Site. Courtland Wood is also designated as a non-statutory Local Wildlife Site (LWS); and
- Smith's Copse located on the eastern boundary of the Main Site.

2.2.18. The North Site, adjacent to Christ's Hospital Station, comprises part of a species-poor semi-improved grassland field. One veteran tree is present within this area and the off-site woodland on the northern boundary comprises Sparrow Copse LWS which is also included on Natural England's Ancient Woodland Inventory.

2.2.19. In terms of ecological designations and considerations of the biodiversity, there are no internationally designated sites within 10km of the Site, the closest being Mens SAC located 10.8km south-west of the Site. The Site is also located within the Sussex North Water Supply Zone and therefore consideration is given to the more distant Arun Valley SPA/SAC/Ramsar.

2.2.20. There are two nationally designated Sites of Special Scientific Interest (SSSI) within 5km of the Site:

- St Leonard's Park Ponds SSSI is located approximately 4.2km to the north-east of the Site; and
- St Leonard's Forest SSSI is located approximately 4.5km to the north-east of the Site.

2.2.21. Upper Arun SSSI is located approximately 8km to the south-west of the Site.

2.2.22. There are no locally designated statutory nature conservation sites within 2km of the Site. There are no other nationally protected areas such as National Nature Reserves (NNRs) or Local Nature Reserves (LNRs) within 2km of the Site.

2.2.23. The habitats within the Site have been found to support:

- [redacted]
- A range of breeding and wintering birds;
- Several bat roosts and areas for foraging and commuting;
- Great Crested Newts om the west of the Main Site during terrestrial phases in association with two off-site breeding ponds; and
- Low numbers of common and widespread reptiles (Slow-worm, Grass Snake and Common Lizard) generally located around field margins and woodland edges.

2.2.24. No Otters, Water Voles or Dormice have been recorded at the Site, and the site is considered as a whole to be of local value for invertebrates with the main habitat of interest being hedgerows and associated field margins.

## LANDSCAPE AND VISUAL

2.2.25. The Site and much of the immediately adjacent landscape is low-lying, with blocks of woodland, hedgerows, trees and nearby development concentrated toward the east plus homes to the west and south. Overall, this will result in limited visibility of the Proposed Development. However, it is likely to be visible from some of the most sensitive landscape and visual receptors in the local area, notably people travelling through it on Public Rights of Way (PRoWs) such as footpaths, bridleways and cycle paths. The key characteristics and features of the Site are as follows:

- Low-lying topographical position;
- Grass pasture agricultural land use, with medium scale regular shaped fields;

- Vegetation comprises mature trees, hedgerows, plus tree belts and woodland – including Smiths Copse and Courtland Wood;
- Grade II* Listed building – Great House Farmhouse is located within the centre of the Main Site (outside the Site boundary);
- Public Rights of Way cross the Main Site, typically west to east with open views of the agricultural fields, with a wooded skyline to the west and south, and an edge of settlement character to the east;
- Views from the northeast and centre-east of Main Site where the Grade II* Listed Dining Hall and Water Tower at Christ's Hospital School and other taller buildings are apparent; and
- Visual connectivity to adjacent homes, front and rear elevations / back gardens at the existing settlement edges.

2.2.26. At a national level, the Site and study area lies within the National Character Area (NCA) 121 Low Weald. Locally, the Site is located within West Sussex LCA H1 Central Low Weald and Horsham District LCA H1 Southwater and Christ's Hospital Farmlands.

2.2.27. The visibility of the Site is predominantly influenced by landform and the extent and type of vegetation cover and built elements within the surrounding landscape. A Zone of Theoretical Visibility (ZTV) was prepared to assist in the selection of viewpoints for verification in the field and to inform the assessment of likely visual effects.

## NOISE AND VIBRATION

2.2.28. The existing baseline noise climate on the Site is predominantly dominated by road traffic from the A24 to the north and surrounding local road, including Worthing Road to the east and Two Mile Ash Road to the west. The baseline noise levels are typical of a predominantly rural area such as this where road traffic is the dominant noise source.

## SOCIOECONOMICS

### Population and Employment

2.2.29. According to the 2021 UK Census, Horsham's population was 146,778, and for West Sussex was 882,676 residents. The estimated population of working age residents aged 16-64 as a percentage of the total resident population in Horsham is 58.5%. As of 2024[1], the job density levels (i.e. the ratio of total jobs to the population aged 16-64) in Horsham was 0.84. This is slightly lower than West Sussex (0.86) level and indicates fewer employment opportunities within the district when compared with West Sussex as a whole.

### Health Facilities

2.2.30. The 2019 local authority health profile for Horsham (**Ref 1.1**) indicates that the health status of the population is considerably better for most categories when compared with the England average. However, Horsham performed significantly worse than England for several health indicators including estimated diabetes diagnosis rate and estimated dementia diagnosis rate.

[1] The most recently available data at the time of writing.

2.2.31. There are five GP surgeries located within 5km of the Site. The average number of patients per GP across the practices (2,430 patients per GP) is higher (i.e. worse) than the average ratio of 1,912 patients per GP in South East England (1,912 patients per FTE GP) as recorded by NHS England in November 2025.

**Education Facilities**

2.2.32. Early years education facilities within 5km of the Site show varying levels of capacity and enrolment. There is no information currently available on the capacity of these early years facilities therefore it is assumed that there is limited capacity available at these facilities.

2.2.33. In 2026[2] there was a total surplus of 313 primary education places. If it is assumed that a 95% occupancy rate means a school has no further capacity, there remains a total surplus of 203 places against planned provision for primary school children living within 3.7km of the Site.

2.2.34. In 2026 there was a total deficit of 522 secondary education places. If it is assumed that a 95% occupancy rate means a school has no further capacity, there is a total deficit of 390 places against planned provision for secondary school children living within 5.6km of the Site.

**Housing**

2.2.35. There are approximately 66,392 dwellings in Horsham based on November 2025 dwelling stock estimates. In terms of tenure, Census data reveals that 72.3% of dwellings within Horsham were privately owned or rented, a slightly higher proportion compared with 68.5% in West Sussex.

2.2.36. Demand on social rented housing is projected to continue rising, and the ongoing need for affordable homes within Horsham is reflected in the draft Local Plan, Strategic Policy 39, which outlines a target for a minimum provision of 35% affordable housing of the total housing provision on strategic sites.

**Open Space and Play Space**

2.2.37. There are 52 sites classified as parks and gardens across the Horsham District, the equivalent of approximately 126ha. In Southwater there is a total of 7.97ha of parks and gardens, with a total provision of 0.70ha / 1,000 population; less than the district average. There is one play space within 400m for children and nine play spaces within 1km for young people.

## WATER RESOURCES, FLOOD RISK AND DRAINAGE

2.2.38. The Site lies entirely within Flood Zone 1, meaning that there is a probability of fluvial and tidal flooding of less than 0.1% every year.

2.2.39. The Site is classified as a Greenfield site, currently draining via natural overland runoff, land drains and infiltration. There are no main rivers in proximity to the Proposed Development and two ordinary watercourses located on the Main Site.

2.2.40. The following sensitive receptors have been identified:

- Receiving Watercourses – The Gill (tributary of River Adur);
- Receiving Watercourses - The River Arun headwaters;

[2] The most recently available data at the time of writing.

- Existing SWS Foul Sewer Network;
- Construction workers on the Site construction phases; and
- End Users of the Proposed Development once developed.

2.2.41. The Site is not located within a Groundwater Source Protection Zone. However, the Site is partially located within an area designated as High Groundwater Vulnerability and within Sussex North Water Supply Zone. No groundwater abstraction licences were identified within a 500m radius of the Site.

**GROUND CONDITIONS AND CONTAMINATION**

2.2.42. The majority of the Site is covered by a patchwork of agricultural fields, assessed as having a variety of land quality.

2.2.43. A historic landfill is present on the northern boundary of the North Site and this area is currently covered by woodland. Two areas of historic landfill are also located in the southern area of the Main Site, located within and adjacent to the disused railway line, which is now the Downs Link.

2.2.44. The majority of the Site's bedrock geology comprises the Horsham Stone Member (sandstone), the northern and southern areas within the Site consist of the Weald Clay Formation (mudstone). The Site is not underlain by any Superficial deposits.

2.2.45. Horsham Stone Member is classified as a Secondary 'A' Aquifer while the Weald Clay Formation is shown as unproductive strata.

2.2.46. The Site is located within a Brick Clay Resource and a Building Stone Mineral Safeguarding Area which are designed by the West Sussex County Council Joint Minerals Local Plan (July 2018, Partial Review March 2021).

**CLIMATE CHANGE AND GREENHOUSE GAS EMISSIONS**

2.2.47. The receptor of Greenhouse Gas (GHG) is the global atmosphere (the atmospheric concentration of GHGs), evaluated as having a high sensitivity, given the severe consequences of global climate change on natural ecosystems, societies, economies, lives and livelihoods around the world. Greenhouse gas emissions occur constantly and widely as a result of natural and human activity, including, energy consumption and industrial processes.

**UTILITIES**

2.2.48. Several types of utilities have networks present within and adjacent to the Site, including high-voltage overhead power lines (UK Power Networks and GTC), water mains and sewers (Southern Water), gas mains (Scotia Gas Networks and GTC), Openreach lines and communication lines (Vodafone, Virgin Media, City Fibre, Neos and EXA).

# 3 WHAT IS THE PROPOSED DEVELOPMENT?

## 3.1 OVERVIEW

3.1.1. The description of the Proposed Development is as follows:

*Outline application with all matters reserved (except for primary access to the highway) for a phased development comprising: the demolition of existing buildings and construction of up to 1,000 residential dwellings (including affordable housing) (Use Classes C2 and C3); a mixed-use neighbourhood centre (Use Classes E and F); education facilities (Use Class F1(a)); business and employment floorspace (Use Classes B2, B8 and E(g)); redevelopment of existing agricultural buildings including construction of a building for community use (Use Classes E and F2); improvements to public rights of way; sports pitches, gypsy and traveller pitches/plots; public open space; landscaping, and associated infrastructure ("the Proposed Development").*

3.1.2. The Outline Planning Application is seeking permission for a residential-led development on the approximately 116.7ha Site to provide the Southwater area with increased housing supply, space for business, improved travel links, and a range of open green spaces and community facilities. These elements will be constructed in 'phases' over a series of time. The Class types of these elements are set out in **Table 3-1** below, and the approximate locations of each element and land use are outlined in **Figure 3-1**.

**Table 3-1 - Approximate Site Areas and Uses**

| Element of the Proposed Development | Land Use Class | Approximate Site Area (hectares) |
|---|---|---|
| **Residential** (up to 1000 homes) | C3 | 29ha |
| **Care home / specialist accommodation** (up to 80 homes) | C2 | 0.5ha |
| **Business & Employment Space** | B2, B8, and E(g) | 4.0ha |
| **Neighbourhood centre**- comprising commercial / retail and community space | E and F | 0.2ha |
| **Education** – a 1-Form-Entry (FE) Primary School (expandable to 2FE), nursery (minimum of 60 places), and 6FE (expandable to 8FE) secondary school. | Primary School & Nursery: Use Classes E(f) and F1(a)<br>Secondary School: Use class F1 (a) | 11 ha |
| **Gypsy and traveller pitches** (5 no.) | | 0.5ha |
| **Allotments** | | 0.43ha |
| **Public open space** (including sports pitches, ancient woodland, secondary woodland, tree belt zones, attenuation and local access infrastructure) | | 59ha |

| Element of the Proposed Development | Land Use Class | Approximate Site Area (hectares) |
|---|---|---|
| **Orchard Barns complex** (redevelopment / restoration of existing agricultural buildings * a new barn style flexible community use building(s)) | E and F2 | 0.75ha |
| **Highway Improvements** (new proposed primary & secondary roads – excludes areas of improvements to existing roads / junctions for masterplan access points) | | 6.25ha |
| **PRoW improvements** | | |
| **North Site (Christ's Hospital Station Car Park)** | | 1.35ha |

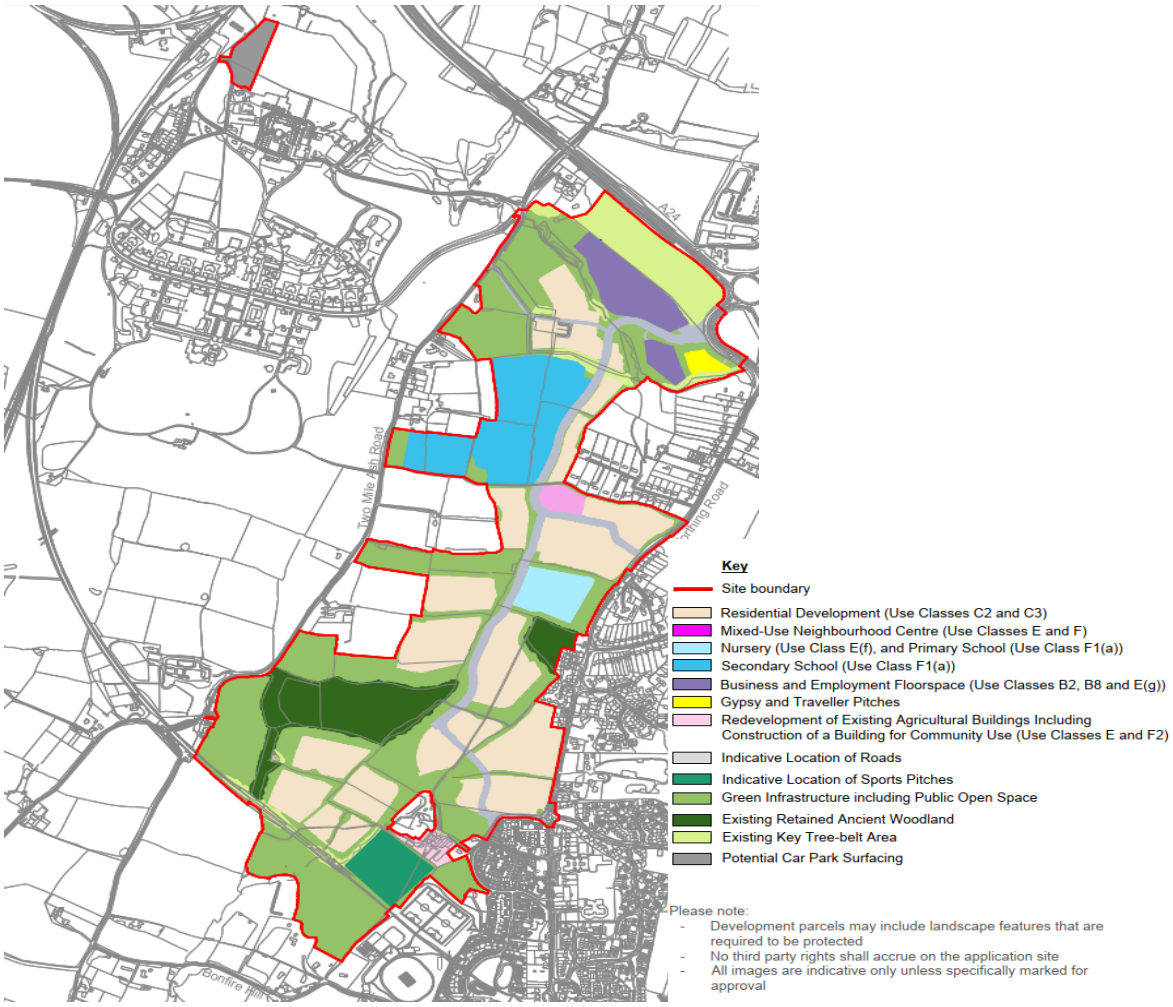


**Figure 3-1 - Land Uses within the Site**

## 3.2 HOW WILL THE SITE BE ACCESSED?

**Vehicular Access**

3.2.1. The Transport Assessment, and the Movement Plan (as shown on **Figure 3-2**), set out the locations and types of movement routes and points and types of access across the Site.

3.2.2. it is envisaged that five new vehicular access points will be provided for entry to the Site from the existing highway network. This comprises five primary access points, one from the north of Worthing Road adjacent to the Hop Oast roundabout, two from Worthing Road, one from Two Mile Ash Road and one to the south from Chessall Avenue. A new simple priority junction from the eastern side of Station Road is proposed at the smaller site near Christ's Hospital Station (shown as 'B' on **Figure 1-1** above).

3.2.3. Bus stops will be considered within the Site that will likely include a shelter, seating, lighting, appropriate kerbs and provision for real time information.

3.2.4. The majority of the vehicular routes within the Site will all include street trees, grass or planted verges.

**Non- Vehicular Access and Movement**

3.2.5. The Site will deliver enhancements to existing footpaths on site, suitable for forecast increase usage from on-site users as a result of the Site. This will include a range of measures including improved surfacing, visibility to provide natural surveillance and widening in feasible locations to encourage usage and provide safe crossing.

3.2.6. A trim trail of approximately 5km in length will be provided across the Main Site as part of the movement strategy, linking the key elements of the Site for pedestrians and cyclists. The trail and improved PRoW within the Site will encourage active travel and exercise with accessible footpaths and themed trails. The trail will likely provide connections with the existing PRoW network and the Downs Link.

3.2.7. The Site will retain the recent improvements to Bridleway 1662, where possible, but the Site will enhance the route further. As the primary road dissects the Bridleway, an appropriate crossing will be provided to offer a safe route for all users. Furthermore, visibility of the route will be enhanced to provide natural surveillance.

3.2.8. The surface of the Downs Link, which runs within the southern section of the Main Site between Southwater Village Centre and Two Mile Ash Road, will also be improved within the Main Site itself, as well as potential funding towards improvements as it extends northwards towards Christ's Hospital. It is also anticipated that funding will be provided towards upgrading the surfacing where necessary to Bridleway 1642.

3.2.9. The surfaces for pedestrians and cyclists will be suitable for wheelchair users, for example incorporating dropped kerbs and crossing points with associated tactile paving.

3.2.10. The primary road will also include dedicated cycle lanes and footpaths alongside the carriageway.

3.2.11. These changes and improvements are outlined on **Figure 3-2**.

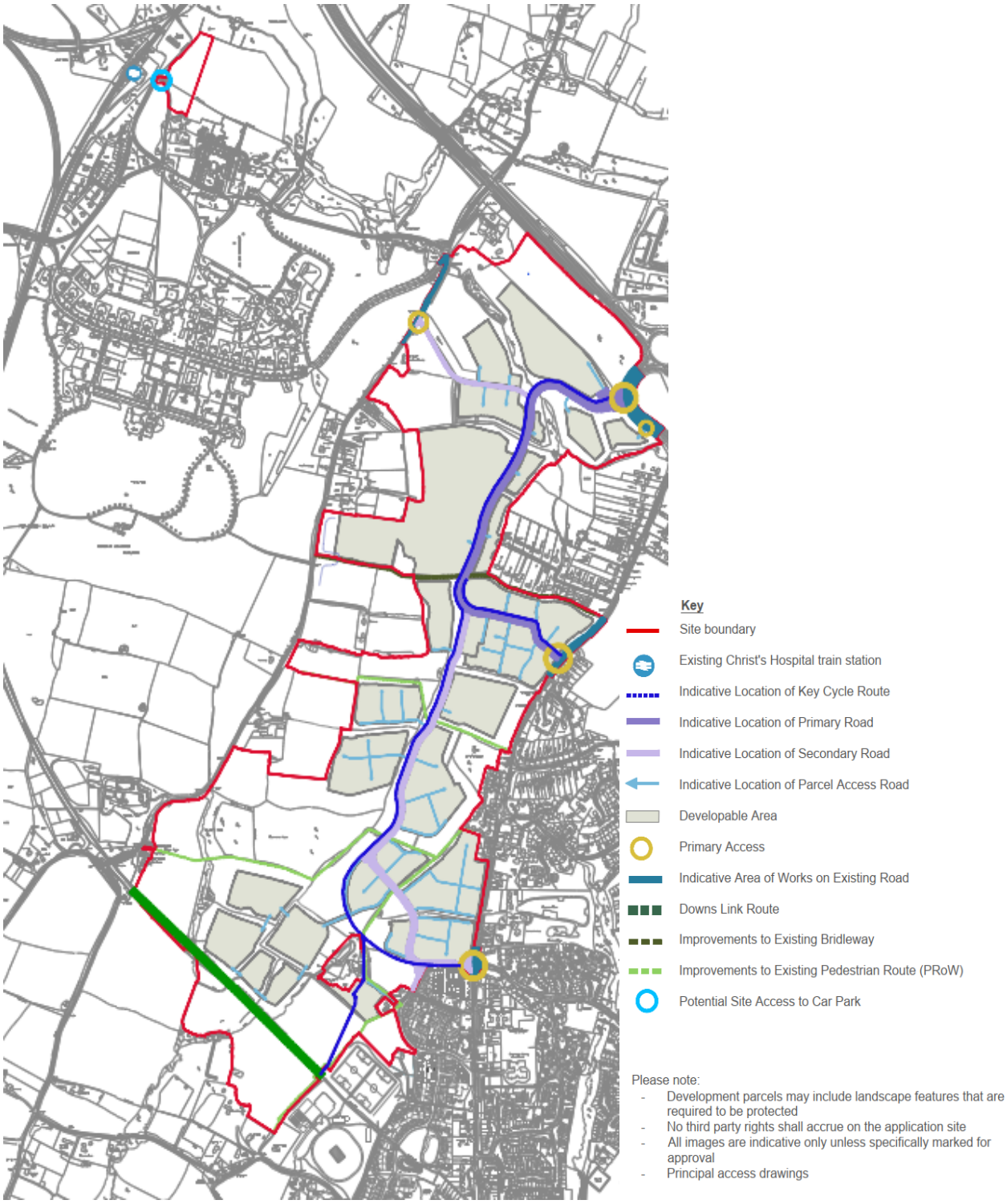


**Figure 3-2 - Movement Plan**

## 3.3 WILL THE SITE PROVIDE ANY PLANTING?

3.3.1. Courtland Wood, Two Mile and Gill and Smith's Copse will form part of a woodland corridor and a network of hedgerows and trees will be created across the Main Site to maintain a mature landscape, preserve its historic interest, and allow for the continued presence and movement of wildlife across and around the Site. Planting will occur along the Downs Link and between existing retained ancient woodland. Mitigation proposals will aim to incorporate approximately 1,500 new trees across the Site.

3.3.2. The Landscape Plan incorporates provision for formal and informal open spaces, natural green spaces, sports pitches, allotments and play areas to serve the new development.

3.3.3. The Landscape Plan, which is shown on **Figure 3-3** below, aims to maximise direct access to nature and views to nature for a year-round contact with the outdoors for the future users of the Site and encourage active travel and exercise with accessible footpaths and themed trails.

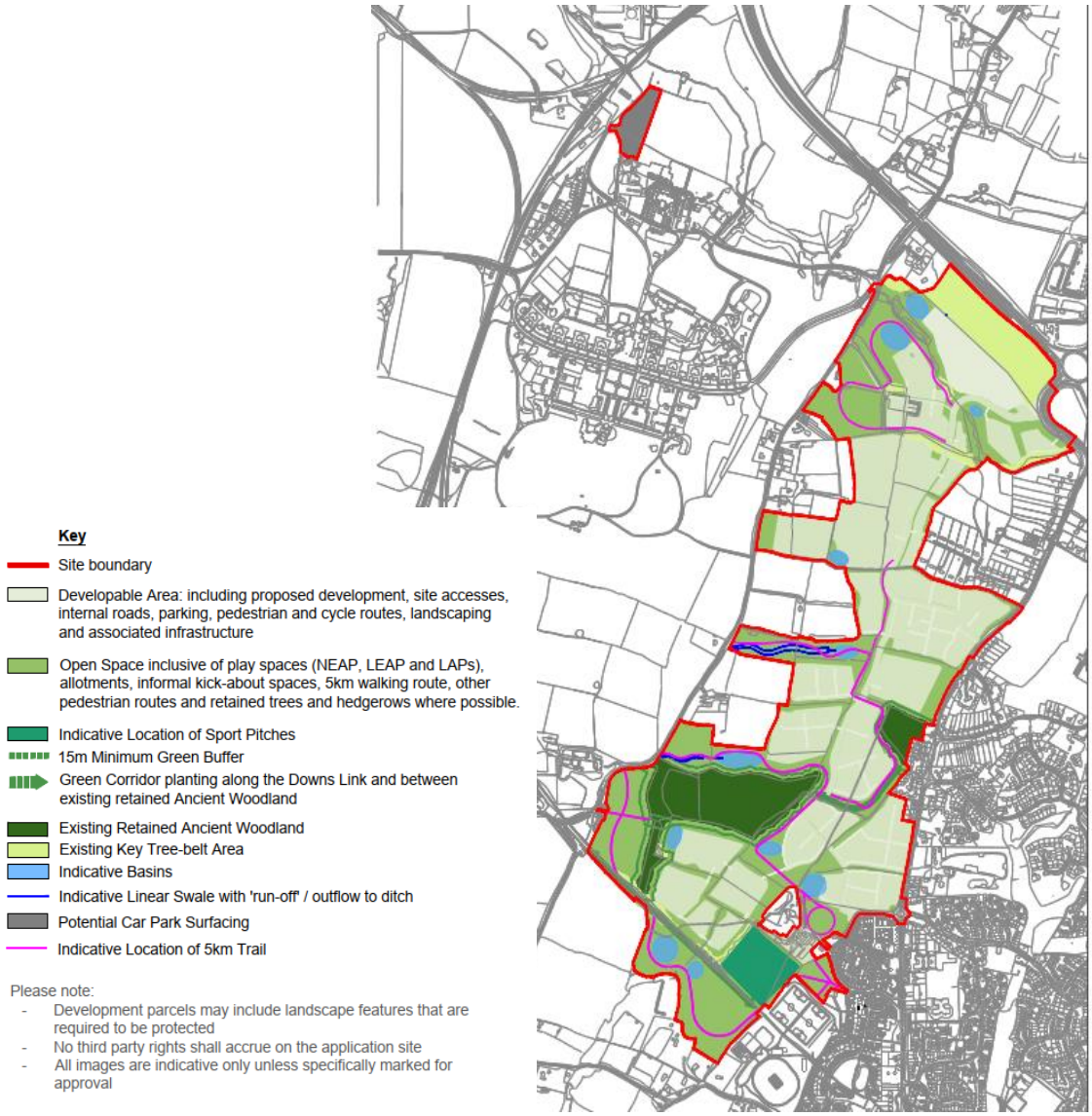


**Figure 3-3 - Landscape Plan (excerpt from drawing KPK-A019-0011-Landscape Plan-RevG)**

## 3.4 HOW WILL THE SITE PROTECT NATURE?

3.4.1. The design of the Site has sought to retain boundary features such as hedgerows and trees wherever possible. Habitats of higher ecological interest such as the three ancient woodland areas within the Site, and other areas of woodland within the Site, will be retained and complementary habitats would be created as part of the Site's landscape design.

3.4.2. Building on existing hedgerows, woodlands, and watercourses, the Site will reinforce natural features through new habitat corridors, SuDS, and tree-lined walking and cycling routes.

3.4.3. Green infrastructure is multifunctional, combining biodiversity, drainage, and recreation. Existing PRoWs, bridleways, and the Downs Link will be retained and enhanced, strengthening connections within the Site and to the surrounding countryside.

3.4.4. New woodland planting will be introduced to reinforce landscape structure, improve ecological connectivity, and support long-term climate resilience.

3.4.5. A Landscape and Ecological Management Plan (LEMP) will be prepared to outline how landscapes will be developed, maintained, and managed to promote biodiversity and ecological health. This will be a key mitigation measure to ensure the Site's current landscape is respected while the overall ecological value is enhanced. A Construction Environmental Management Plan (CEMP) will also be prepared to avoid, minimise, and mitigate against any adverse construction effects on the environment and surrounding community.

3.4.6. The Applicant will comply with updated policy requiring a minimum 10% Biodiversity Net Gain (BNG) through habitat creation and enhancement, new planting and sensitive landscape design.

## 3.5 HOW WILL THE SITE ADDRESS CLIMATE CHANGE ISSUES?

3.5.1. A significant reduction in operational regulated $CO_2$ emissions will likely be delivered for all homes within the Proposed Development. The details of how this will be achieved will be within the strategies which will be set out within the reserved matters applications. The Site will have embedded mitigation measures proposed to benefit from future grid decarbonisation, embedding of sustainable transport in the design, and increasing future EV use.

3.5.2. The embedded mitigation measures proposed include optimising material use and low carbon materials, reducing construction waste, and embedding end-of-life measure in the design phase which can be explored in later design phases.

3.5.3. There will also be electric vehicle charge points provided as part of the Proposed Development.

3.5.4. While changes to policy and regulatory requirements are likely to occur in the near future, the design of the Site retains flexibility for installation of energy technologies. Installation of energy efficient design principles, such as high standards of building fabric, form factor analysis, and orientation of glazed areas is passive design mitigation to reduce the demand for energy for heating and cooling purposes.

## 3.6 WHEN WILL THE SITE BE CONSTRUCTED?

3.6.1. Construction of the Proposed Development is anticipated to take approximately 13 years and is currently envisaged that this will come forward in phases which will be agreed with HDC. An outline of the proposed phases and the proposed elements within each phase is listed below:

- Phase 1a – creating the start of the new central neighbourhood, including land for the secondary school and new neighbourhood centre with mixed-use facilities, shops, later living provision, and a mix of housing types, sizes and tenures;
- Phase 1b – residential areas alongside gypsy and traveller pitches to the northeast of the Site, including new transport links and connections to the employment land;
- Phase 2 – southern neighbourhoods including around Smith's Copse, sports facilities and associated public realm and open space along the southern parts of the Site and Downs Link edge;
- Phase 3 – western and south-western areas of the Site, including a range of landscaping and enhancement, and lower density residential areas;
- Employment Phase – delivery of the employment uses on the northern part of the Site, accessed from the new northern access arrangements near Hop Oast; and
- Potential Car Park Surfacing – a small, independent phase for potential car park surfacing works adjacent to Christ's Hospital railway station, subject to need and further assessment.

3.6.2. It is envisaged that each phase will seek to incorporate an element of placemaking so that the benefits of each phase are realised in full and new and existing residents feel established and safe in the places they live, whilst also benefiting from a sense of community.

3.6.3. It is anticipated that the standard working hours will be 0800 hours to 1800 hours on weekdays, 0800 hours to 1300 hours on Saturdays and no working on Sundays or Bank Holidays. This will however be reviewed against relevant guidance and through discussions with WSCC / HDC. Any exceptions to standard working hours / practices would be agreed with WSCC / HDC in advance.

# 4 WHAT ALTERNATIVES HAVE BEEN CONSIDERED?

## 4.1 INTRODUCTION

4.1.1. The EIA Regulations require that an ES should include a description of the reasonable alternatives relevant to the Proposed Development, in addition to an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.

4.1.2. The following alternatives have been considered:

- The 'Do Nothing' Scenario;
- Minor improvement of the Site;
- Alternative Sites; and
- Design Alternatives.

### THE 'DO NOTHING' SCENARIO

4.1.3. The 'Do-Nothing' Scenario refers to what would happen if the Proposed Development does not go ahead. The 'Do-Nothing' Scenario is unlikely given that the Site is identified as an emergency allocation for the development proposed allocated under Strategic Policy HA3 (Land North-West of Southwater) in the emerging local plan.

4.1.4. The Site also includes an area identified in the adopted Southwater Neighbourhood Development Plan (SNDP) (June 2021), Policy SNP2, for the provision of 422 to 450 new homes and 8ha of public open space. Policy SNP3 has identified an area within the Site that is safeguarded land for a secondary school (or an all-through school) in order to meet the growing demand for school places within the local area. These further designations within neighbourhood planning policy further demonstrates that the 'Do Nothing' scenario is unlikely.

4.1.5. Should no development of the Site come forward, this would result in the Site continuing in its current form. This scenario also means that benefits from the Proposed Development, such as housing provisions, including gypsy and traveller pitches, as well as increased employment space, education facilities, sports facilities, and public spaces would not be delivered.

### ALTERNATIVE SITES

4.1.6. No reasonable alternative sites have been considered as the existing Site was identified for potential development within the Emerging Horsham Local Plan (Regulation 19 version). The Emerging Local Plan will make provision for a significant number of homes and associated infrastructure within the period 2023-2040. The Proposed Development will be an important development that will help HDC to meet the strategic requirement for new homes, employment floorspace, and educational infrastructure. The selection of the site location for the Proposed Development was chosen due to the availability of the proposed land, its suitability for development and its proximity to the existing village of Southwater and to Horsham. The Site builds on the success of Berkeley's Broadacres development in Southwater and Highwood Village in Horsham.

## DESIGN EVOLUTION

4.1.7. The design of the Proposed Development has evolved since 2022, with the 2026 planning application now incorporating a change from 1,500 to 1,000 homes, and a stronger focus on the landscape and ecological design of the elements across the Site. A clear, at-a-glance comparison of how the proposals have evolved in response to technical evidence, stakeholder engagement and ongoing discussions with HDC are shown in **Figure 4-1,** and the design evolution options are provided in further detail below and within the Design and Access Statement.

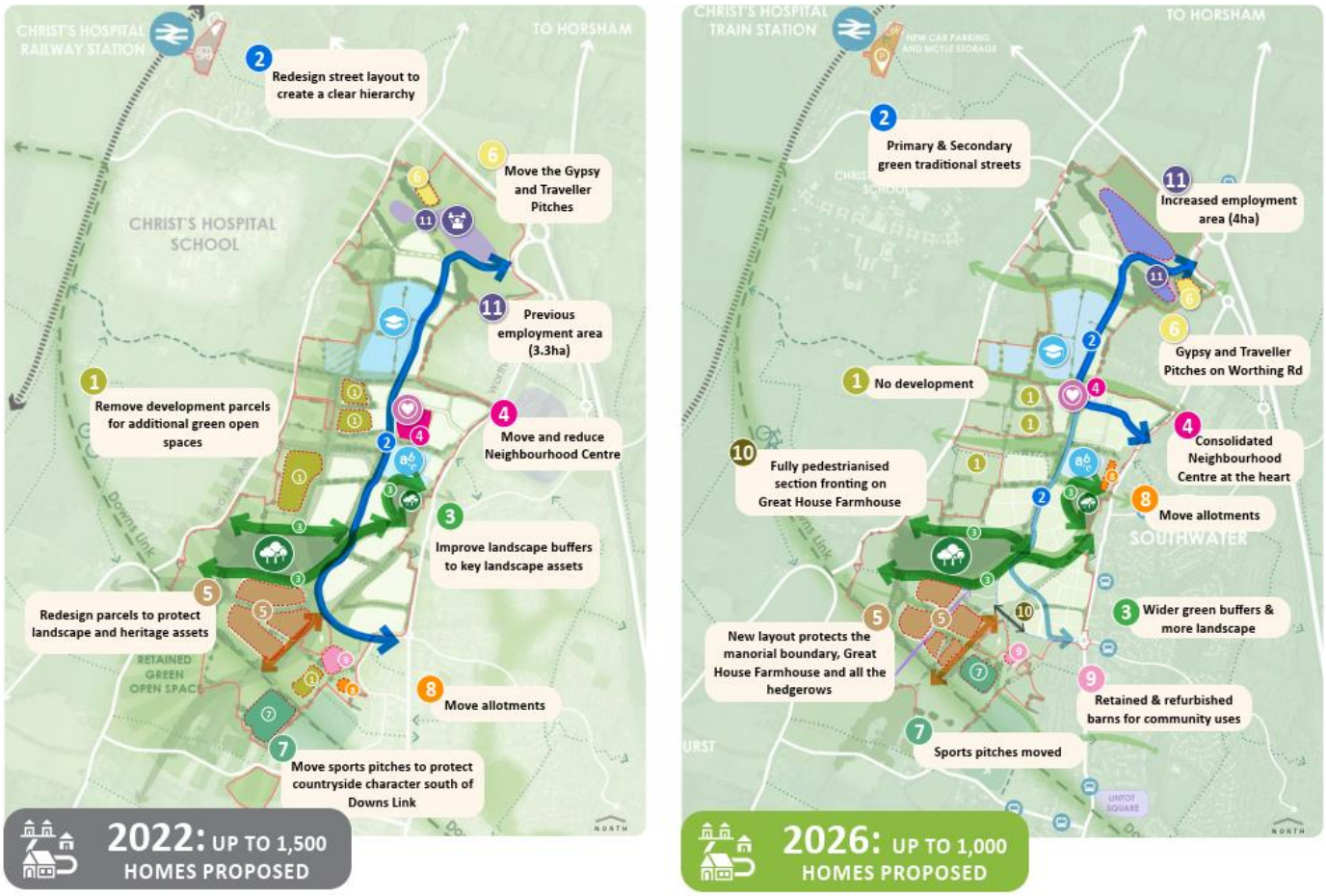


**Figure 4-1 - Comparison of the design changes between the 2022 and 2026 applications**

## MASTERPLAN DESIGN OPTIONS

4.1.8. Three masterplan options were developed to ensure that all scenarios had been explored in relation to the potential location of uses across the Site. Each masterplan option has been carefully designed, testing the mix of uses in different locations within the masterplan. A detailed analysis was undertaken by the various technical and design disciplines within the project team (which included landscape, heritage, ecology, transport) to understand the advantages and disadvantages of each option.

**Option 1: 2025 Framework 1**

4.1.9. This option represents the first major evolution of the withdrawn 2022 scheme, reshaped in response to stakeholder engagement, technical work, and Local Authority feedback. The emphasis is a more landscape-led approach, with development pulled back from sensitive edges, stronger woodland and green buffers, and a more appropriate built form character.

**Figure 4-2 - 2025 Design Evolution - Option 1**

**Option 2: 2025 Framework 2**

4.1.10. This iteration refines the masterplan's movement hierarchy and street character to create a more legible, people-focused place. The primary route is simplified and strengthened to support access and wayfinding, while the internal network is designed to feel greener and less engineered.

A key change is the introduction of a pedestrian and cycle-only route north of Great House Farmhouse, reducing vehicle movement close to the listed building and enabling a more continuous

green setting that protects and enhances its setting. The option also increases community value through the redevelopment of the existing historic barns and the delivery of an additional new barn, providing flexible community space, alongside expanded allotment provision.

**Figure 4-3 - 2026 Design Evolution - Option 2**

## Option 3: Final Framework Masterplan 2026

4.1.11. This final concept framework brings the masterplan together into a clearer, more coherent and place-led arrangement. It refines the movement hierarchy to feel more natural through the neighbourhood centre, strengthens the role and quality of the centre as a genuine heart, and delivers a more generous and sensitive setting to Great House Farmhouse. Alongside this, the option improves connectivity for walking and cycling, reinforces landscape structure and retention, and introduces a small additional employment opportunity to support a balanced community.

4.1.12. Option 3 encompassed all of the amendments and improvements agreed upon throughout consultation and feedback. A summary of the benefits of this option is provided below:

- Retainment of approximately 90% of hedgerows and trees across the site, creating a core, landscaped focus on the Site;
- Gentler connections through the neighbourhood centre through the realignment of the primary roads, dispersing traffic and reducing traffic 'hot spots';
- Introduction of additional employment land, with independent access from the north;
- Redesign of the neighbourhood centre providing a new public square, mixed-use blocks, and creating a stronger community feel of the Site;
- Introduction of a new 20m wide 'village-green' corridor to provide a softer rural edge between amenities;
- Walking and cycling connections improved with safer, more continuous routes; and
- Setting surrounding Great House Farmhouse strengthened, with open space in front of the farmhouse enlarged, and residential parcels to the north of the farmhouse refined to allow for wider separation and improving the relationship with the heritage asset and local amenities.

**Figure 4-4 - 2026 Design Evolution – Final Framework Masterplan**

## 4.2 ENVIRONMENTAL CONSIDERATIONS

4.2.1. A number of environmental factors have influenced the design of the Proposed Development during the iterative design process. The following section summarises key aspects that have been taken into account throughout this process:

- Woodland buffers: Enhanced green corridors and buffers of 20-50m, in comparison to 15m previously;
- Less development, more landscape: 500 fewer homes than the 2022 proposals;
- Sensitive repositioning of sports pitches, allotments and traveller pitches;
- Enhancing and protecting nature: retaining over 90% of hedgerows, with 5 times more open space provided than policy requirements;
- Biodiversity net gain: Ensure compliance with updated policy requiring minimum 10% net gain;
- Flooding & Drainage: A robust strategy offering a variety of measures across the site;
- Heritage setting: Review of proposals surrounding Great House Farmhouse to address heritage sensitivities;
- Lower housing densities are positioned in more sensitive areas to create a gentle transition at the site edges, particularly along the western and southern boundaries and around Great House Farmhouse, responding to heritage considerations and the landscape setting associated with Courtland Wood, Smith's Copse and the Downs Link; and
- Sustainable design: limiting chemicals, supporting wildlife and encouraging native planting for year-round habitat value, and lowering maintenance needs.

# 5 WHAT IS THE APPROACH TO UNDERTAKING AN EIA?

## 5.1 OVERVIEW

5.1.1. An EIA has been undertaken to meet the requirements of the relevant planning legislation and policy and assesses the effects of the Proposed Development on the environment.

5.1.2. The EIA considers impacts during both construction and operation of the Proposed Development. The assessment of the construction phase considers temporary activities required for building the Proposed Development and their effects on the environment and local community. During construction, most of the effects of the Proposed Development would be avoided or mitigated by industry standard practice and control measures, which would be implemented through a Construction Environmental Management Plan (CEMP). The assessment of the operational phase looks at the permanent presence of the Proposed Development on the environment and local community.

5.1.3. The EIA has been completed following consultation with HDC and other relevant consultees. In addition, members of the public were consulted to provide comments and feedback to inform the design.

5.1.4. The findings of the EIA are reported in the ES which has been submitted to accompany the planning application for the Proposed Development.

## 5.2 EIA SCOPING PROCESS

5.2.1. As part of the EIA process, an EIA Scoping Report was submitted to HDC on 10th November 2025 and this report is available in **Appendix 1.1** of **Volume 2 of the ES**.

5.2.2. The EIA Scoping Report provided an overview of the EIA process, the approach to assessment, as well as setting out those topics which may experience residual environmental effects. HDC provided the applicant with a Scoping Opinion on 15th November 2025 which included comments from statutory consultees and nearby residents. Responses to this Scoping Opinion are presented in **Appendix 5.1** of **Volume 2 of the ES**, with updates made accordingly to the technical chapters following these responses.

5.2.3. The EIA Scoping Report outlined the respective approaches of the following topic areas, all of which have been scoped into the EIA:

- Air Quality (**ES Chapter 6**);
- Cultural Heritage and Archaeology (**ES Chapter 7**);
- Ecology (**ES Chapter 8**);
- Landscape and Visual (**Chapter 9**);
- Noise and Vibration (**Chapter 10**);
- Socio-economics (**Chapter 11**);
- Traffic and Transport (**Chapter 12**);
- Water Resources, Flood Risk, and Drainage (**Chapter 13**);

- Ground Conditions and Contamination (**Chapter 14**);
- Greenhouse Gases (**Chapter 15**);
- Cumulatives Effects (**Chapter 16**); and
- Summary of Effects and Mitigation (**Chapter 17**).

5.2.4. As part of the EIA Scoping process, the following topics have been scoped out of the assessment of the ES:

- Daylight, Sunlight and Overshadowing;
- Human Health;
- Arboriculture;
- Waste;
- Risk of Major Accidents and/or Disasters;
- Artificial Lighting; and
- Heat and Radiation.

5.2.5. The EIA Scoping Report **(Volume 2, Appendix 1.1)** provides further information to support the position for scoping out of topics. Where appropriate, additional information is provided within the ES, for example, Archaeology is now considered within **Volume 1, Chapter 7: Cultural Heritage and Archaeology** after it was previously scoped out but has since been included following the Scoping Opinion Responses.

## 5.3 APPROACH TO THE ASSESSMENT

5.3.1. Environmental effects have been assessed using best practice guidance and appropriate national and international standards or limits and guidance. In the absence of relevant standards, professional judgement by experienced technical specialists has been used where appropriate.

5.3.2. Each effect is given a significance level based on the magnitude of the change as a result of the Proposed Development and the sensitivity of the affected environmental receptor receiving the change. Residual effects (the environmental effects which remain after all mitigation measures are implemented) have also been assessed. **Table 5-1** sets out the matrix used to determine the significance of the effect in question.

**Table 5-1 – Matrix for Classifying Effects**

| | | Sensitivity of Receptor / Receiving environment to change | | | |
|---|---|---|---|---|---|
| | | **High** | **Medium** | **Low** | **Negligible** |
| **Magnitude of Change** | **High** | Major | Major | Moderate | Negligible |
| | **Medium** | Major | Moderate | Minor to Moderate | Negligible |
| | **Low** | Moderate | Minor to Moderate | Minor | Negligible |
| | **Negligible** | Negligible | Negligible | Negligible | Negligible |

5.3.3. The terms used in **Table 5-1** to define environmental effects (both beneficial and adverse) in the ES are as follows:

- **Major (beneficial or adverse) effect**: where the Proposed Development would cause a substantial improvement or deterioration to the existing environment/receptor;
- **Moderate (beneficial or adverse) effect**: where the Proposed Development would cause a noticeable improvement or deterioration to the existing environment/receptor;
- **Minor (beneficial or adverse) effect**: where the Proposed Development would cause a perceptible improvement or deterioration on to the existing environment/receptors; and
- **Negligible**: where the Proposed Development would result in no discernible improvement or deterioration to the existing environment/receptors.

5.3.4. For most assessments, effects considered as **moderate** or **major** are considered to be **significant** and those considered as **minor** or **negligible** are considered to be **not significant**.

5.3.5. Effects are described as:

- Direct or indirect;
- Secondary;
- Cumulative;
- Positive or negative;
- Permanent or temporary;
- Short, medium or long-term; and
- Significant or not significant.

5.3.6. In terms of the duration of an effect, generally the EIA considers that a short-term effect is up to 2 years in duration, a medium-term effect is between 2 and 10 years, and a long-term effect is greater than 10 years in duration. Any variation of this approach is explained in the relevant chapter of the ES.

5.3.7. The following section provides a summary of the likely residual environmental effects arising from the Proposed Development during construction and operation.

# 6 WHAT WILL THE RESIDUAL EFFECTS OF THE PROPOSED DEVELOPMENT BE FOLLOWING MITIGATION?

## 6.1 INTRODUCTION

6.1.1. This Section sets out the residual environmental effects identified through the EIA process following the implementation of the mitigation measures.

## 6.2 HOW WILL THE PROPOSED DEVELOPMENT AFFECT AIR QUALITY?

6.2.1. The air quality assessment considers the potential effect of the Proposed Development on local air quality during the demolition, construction and operational phases at nearby sensitive human health and ecological receptors. The assessment follows established best practice guidance and national, regional and local planning policy for air quality.

### CONSTRUCTION

6.2.2. Emissions from the construction phase, including dust from work site areas, are likely to have a direct, temporary, short-term, **negligible** residual effect on human and ecological receptors (**not significant**) after the application of appropriate best practice mitigation measures.

### OPERATION

6.2.3. Emissions of nitrogen oxides and particulate matter from operational phase road traffic would have a direct, permanent, long-term and **negligible** (**not significant**) residual effect. Future users of the Proposed Development would not be exposed to poor air quality. No additional mitigation measures are required.

## 6.3 HOW WILL THE PROPOSED DEVELOPMENT AFFECT CULTURAL HERITAGE AND ARCHAEOLOGY?

6.3.1. The cultural heritage assessment considers the potential effect of the Proposed Development on cultural assets during the demolition, construction and operational phases. The masterplan for the Proposed Development has retained and respected historic landscape features, such as elements of the relict medieval landscape, manorial boundary and historic hedgerows, where possible, which will be incorporated sensitively into the Proposed Development. A range of public engagement measures will also be considered to improve the legibility and public access to the archaeological and historical context of the Site.

### CONSTRUCTION

6.3.2. During construction, effects occur as a result of changes to setting because of views of construction activity, nuisance from the works, and presence of construction equipment.

6.3.3. **Minor adverse (not significant)** and **minor beneficial (not significant)** effects are anticipated on Great House Farmhouse (Grade II* listed).

6.3.4. **Minor adverse (not significant)** residual effects have been identified following the implementation of mitigation for:

- Dining Hall and Water Tower to North, School to South, Colonnaded Wings to East and West (Chapel in West Wing) Forming a Quadrangle, and 8 H Shaped Blocks (4 on each side of Dining Hall) at Christ's Hospital (Grade II*);
- The Arts Centre and Music School at Christs Hospital Grade II*);
- 13 Grade II listed receptors including: Old Lodge to North East of Christ's Hospital, East Lodge and gateway, Christ's Hospital School, Sluetts, Christ's Hospital, Lanaways Farmhouse, Christ's Hospital, Lanaways Barn, Bodimans, Christ's Hospital, Sayers Farmhouse, Christ's Hospital, Barn to North West of Sayers Farmhouse, Christ's Hospital, College Farmhouse, Pond Farmhouse, Holy Innocents Church, Vicarage Cottage, and Southwater House; and
- Two non-designated heritage assets (Christ's Hospital Station Goods Shed, and Station Cottages at Christ's Hospital Station).

6.3.5. Finally, during construction there are **negligible adverse (not significant)** residual effects anticipated for three non-designated heritage assets including: Pump Cottage, Worthing Road, The Hen and Chicken Public House, Worthing Road, and Ye Olde Barn, Worthing Road.

6.3.6. Additionally, there are beneficial effects associated with the demolition of some of the barns at Great House Farm on Great House Farmhouse (**minor beneficial, not significant**) and the non-designated asset Barns at Great House Farm (**minor beneficial, not significant**).

6.3.7. During construction, archaeological features are likely to experience **negligible adverse (not significant)** effects following the implementation of mitigation measures.

### OPERATION

6.3.8. During operation, effects on built heritage are likely as a result in the change in setting of the receptors and new views of the Proposed Development.

6.3.9. There is likely to be a **minor adverse (not significant)** and a **minor beneficial (not significant)** residual effect on Great House Farmhouse (Grade II*) and the Barns at Great House Farm (non-designated heritage asset). The removal of the modern barn components is considered a heritage benefit, which opens views to the listed Farmhouse and to the historic elements of the barns complex. Additionally, improvements to the historic barns A to C, will help to provide heritage benefits due to potential for long term maintenance.

6.3.10. There is likely to be a **minor adverse (not significant)** residual effect on 13 Grade II listed receptors, and a **negligible adverse (not significant)** residual effect on five non-designated assets.

6.3.11. There is likely to be no impact on Dining Hall and Water Tower to North, School to South, Colonnaded Wings to East and West (Chapel in West Wing) Forming a Quadrangle, and eight H Shaped Blocks (four on each side of Dining Hall) at Christ's Hospital, and Arts Centre and Music School at Christ's Hospital, both Grade II* listed.

6.3.12. During operation, no effects are anticipated on archaeological receptors.

## 6.4 HOW WILL THE PROPOSED DEVELOPMENT AFFECT BIODIVERSITY?

6.4.1. An Ecological Impact Assessment has been undertaken, which considers potential effects on designated sites as well as habitats and species using the Site. The assessment was undertaken with reference to the Chartered Institute of Ecological and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment.

6.4.2. Data for the assessment has been collated from a combination of desk studies and ecological surveys which have been undertaken between 2019 and 2025.

## CONSTRUCTION AND OPERATION

6.4.3. The following key ecological receptors and the expected residual effects due to construction and operation of the Proposed Development are listed below:

- Arun Valley SAC/SPA/Ramsar site and Upper Arun SSSI – Construction: **Negligible effect (not significant)**, Operation: **Minor Beneficial (not significant);**
- The Mens SAC – Construction and Operation: **Negligible effect (not significant)**;
- Courtland Wood LWS, Sparrow Copse LWS and other undesignated ancient woodland within and adjacent to the Site (Smith's Copse and Two Mile Ash Gill) – Construction and Operation: **Negligible effect (not significant)**;
- Network of secondary woodlands, hedgerows, mature trees and treelines – Construction and Operation: **Negligible effect (not significant)**;
- Veteran/ancient trees – Construction and Operation: **Negligible effect (not significant)**;
- Bats: roosting – Construction and Operation: **Negligible (not significant)**;
- Bats: foraging and commuting – Construction and Operation: **Negligible (not significant)**;
- Birds: Effects on nesting birds through physical damage and indirect effects of disturbance – Construction and Operation: **Negligible (not significant)**; and
- Birds: Loss and fragmentation of habitat during construction: Construction and Operation: **Minor Beneficial (not significant)**.

6.4.4. The following other ecological receptors and the expected residual effects due to construction and operation of the Proposed Development are listed below:

- Networks of streams, ditches and ponds – Construction: **Negligible (not significant)**, Operation: **Minor Beneficial (not significant)**;

[redacted]

- Reptiles: Direct injury or mortality – Construction: **Negligible (not significant)**;
- Reptiles: Reduction in availability of suitable habitat – Construction and Operation: **Short-term Negligible effect (not significant)**, **Long-term Minor Beneficial (not significant);**
- Reptiles: Disturbance and mortality through increased predation and human activity – Operation: **Negligible effect (not significant)**;
- Great Crested Newt: Direct injury or mortality – Construction and Operation: **Negligible effect (not significant)**;
- Great Crested Newt: Disturbance or accidental mortality from human activity – Operation: **Negligible effect (not significant);** and
- Invertebrates – **Negligible effect (not significant).**

6.4.5. The design of the masterplan has ensured the retention and protection of those features identified across the Site as being of the highest ecological value where possible, as well as creating opportunities to provide enhancements which would maintain the overall nature conservation value of the Site for a number of species in the long-term. Specific measures integrated into the masterplan design and opportunities to maximise their value for wildlife are summarised below:

- All veteran trees have been retained within the Proposed Development and will be afforded buffers and other protective measures.
- The majority of existing hedgerows will be retained. Where hedgerow loss is unavoidable it will be possible to plant new native species-rich hedgerows and other linear habitats within the Site.
- The majority of existing trees will be retained and complemented by new tree planting.
- Creation of new high-value terrestrial habitats (such as species-rich meadow grassland, new areas of native woodland and scrub planting) within areas currently of limited ecological interest.
- In addition to retaining the majority of ditches and ponds, a series of new wetland features and complementary habitats can be created in association with the Proposed Development drainage scheme. This would be expected to substantially enhance the current value of the Site for aquatic wildlife.
- New trees, hedgerows and shrubs will also be established within the Proposed Development. These can include fruit and nut bearing species; nectar and pollen-rich species and native species appropriate to the local area to maximise their ecological value.
- Additional opportunities for wildlife could be provided throughout the Proposed Development through provision of bird and bat boxes on trees and buildings, and provision of log and brash piles in association with hedgerow, woodland, rough grassland and wetland habitats.

6.4.6. In addition to the above, a Construction Environmental Management Plan (CEMP) will be created to ensure construction effects are mitigated.

## 6.5 HOW WILL THE PROPOSED DEVELOPMENT AFFECT LANDSCAPE AND VISUAL RECEPTORS?

6.5.1. The Landscape and Visual assessment considers the likely significant effects arising from the Proposed Development in respect of impacts on landscape and views.

6.5.2. The embedded mitigation which will aim to reduce the effects outlined below include some of the following:

- Enhancement of vegetation and tree canopy connection, to set the Proposed Development into an existing enhanced treed structure;
- Retention and enhancement of existing vegetation along Site boundaries providing physical and visual enclosure in the long term; and
- Retention of vegetation, provision of open space and enhancement of green infrastructure network within the south and west of the Site to assimilate with the rural landscape beyond to the south and west and minimise the impact upon the landscape setting of Listed Buildings within proximity – including Great House Farmhouse.

## CONSTRUCTION

6.5.3. There would be limited physical effects on the nearby character areas as a result of the Proposed Development, the impact is a result of the change of use of the Site from predominantly arable land to a construction site. The assessment identifies that a **negligible adverse (not significant)** residual effect is identified for NCA National Character Area (NCA) 121 Low Weald, and a **minor adverse (not significant)** effect for West Sussex Landscape Character Area H1 Central Low Weald, and Horsham District Landscape Character Area H1 Southwater and Christ's Hospital Farmlands.

6.5.4. With regard to the Site itself, the following residual effects were identified during construction:

- The change in landscape character and land use of the Site would result in a **major adverse (significant)** effect
- A **moderate adverse (significant)** residual effect to Site Landform;
- A **major adverse (significant)** residual effect to land use;
- A **moderate adverse (significant)** residual effect to Site vegetation; and
- A **minor-moderate adverse (significant)** residual effect to Site function due to the loss of the agricultural land use which informs the setting to Listed Buildings.

6.5.5. Based on the visual assessment, a series of visual receptors have been selected for assessment, including:

- Walkers within proximity using bridleways SOW-1662 and SOW-3568 (the Downs Link), footpaths SOW-1660, SOW-1658, SOW-1656, SOW-1655 and SOW- 1628-3 through the North Site and Main Site.
- Walkers within the local landscape from PRoW ITC-1651 to the west of the Main Site.
- Transient users of Christ Hospital Station and car park.
- Transient users of Two Mile Ash Road to the west of the Main Site.
- Transient users of Worthing Road, Chessall Avenue and the roundabout junction to the A24 from Worthing Road, to the east of the Main Site.
- Transient users of Marlpost Road and Church Lane, to the south of the Main Site.
- Residents of homes immediately adjacent to the Main Site.
- Residents of Grade II* Listed Great House Farmhouse.
- Those at Grade II Listed Holy Innocents Church and Christ Hospital School.

6.5.6. The construction phase would likely result in **major adverse (significant)** visual effects to:

- Walkers within proximity using bridleways SOW-1662, SOW-3568 (the Downs Link), footpaths SOW-1660, SOW-1658, SOW-1656, SOW-1655, SOW- 1628-3 through the North Site and Main Site; and
- Residents of Grade II* Listed Great House Farmhouse.

6.5.7. The construction phase would likely result in **moderate adverse (significant)** visual effects to:

- Transient users of Christ Hospital Station and car park;

- Transient users of Two Mile Ash Road;
- Transient users of Worthing Road, Chessall Avenue and the roundabout junction to the A24 from Worthing Road; and
- Residents immediately adjacent to the Site.

**OPERATION**

6.5.8. The assessment of operational effects includes consideration of effects associated with proposed landscaping works and vegetation; to incorporate this the assessment considers impacts at the first year of the completion of the Proposed Development (Year 1) and at Year 13 following the completion of the Proposed Development and the establishment of vegetation and planting. As the site is a greenfield site, negative landscape & visual impacts compared to the baseline are to be expected. This is reflected in the assessment of effects summarised below. However, the outline landscape strategy including the retention of existing valuable habitats and ecological features will mitigate the impact as far as possible.

6.5.9. There would be no physical effects on the character area outside of the Site, with the change from predominantly agricultural land to a new neighbourhood affecting a very small part of NCA 121 Low Weald. A **minor adverse (not significant)** effect is judged at year 1 and 13, as the characteristics of the NCA are retained. As for H1 Central Low Weald and H1 Southwater and Christ's Hospital Farmlands, the Proposed Development would comprise a loss of agricultural use in the character area and whilst the Proposed Development includes landscaping and planting benefits, the overall effect is identified as **minor adverse (not significant)** at year 1 and 13.

6.5.10. Embedded mitigation such as the retention and enhancement of landscape features, open space proposed within the centre, west and south, is consistent with the setting of the Site. A **major adverse (significant) effect** is anticipated to the Site character and land use , at year 1. By year 13, the maturation of the existing and proposed green infrastructure would reduce effects to **moderate adverse (significant)** for Site character. Residual effects for land use would remain at **major adverse (significant)**. Residual effects to Site Landform would remain **moderate adverse (significant)**.

6.5.11. The retention and enhancement of landscape features would contribute positively overall to the landscape character of the Site, tempering the change in character to a new place, with associated increase in people and vehicle movements

6.5.12. The Proposed Development will retain and enhance the existing vegetation network within the Site where possible, where the proposed landscaping on-Site would result in a **moderate adverse (significant)** effect at year 1, but would result in a **moderate beneficial (significant)** by year 13 as the vegetation establishes and matures.

6.5.13. The Site function and land use would be changed from agricultural land to new residential neighbourhoods. The current agricultural land use of the fields that informs the rural setting to the Grade II* Great House Farmhouse, will change to that of new neighbourhoods, set within a robust framework of open space and green infrastructure. The effect to the Site's function as part of the setting to Listed Buildings at year 1, and year 13 would be **minor adverse (not significant).**

6.5.14. **Moderate adverse (significant)** effects are anticipated to:

- Transient users of Christ Hospital Station and car park;

- Transient users of Worthing Road, Chessall Avenue and the roundabout junction to the A24 from Worthing Road ;
- Walkers within proximity using bridleways SOW-1662, SOW-3568 (the Downs Link), footpaths SOW-1660, SOW-1658, SOW-1656, SOW-1655, SOW-1628-3 through the North Site and Main Site;
- Residents immediately adjacent to the Site; and
- Residents of Grade II* Listed Great House Farmhouse.

6.5.15. **Minor adverse (not significant)** effects are anticipated for:

- Walkers within the local landscape from PRoW ITC-1651 to the west of the Site;
- Transient users of Two Mile Ash Road;
- Residents of Grade II Listed College Farmhouse; and
- Those at Grade II Listed Holy Innocents Church and Christ Hospital School.

6.5.16. **Negligible adverse (not significant)** effects are anticipated for:

- Transient users of Marlpost Road and Church Lane.

## 6.6 HOW WILL THE PROPOSED DEVELOPMENT AFFECT NOISE AND VIBRATION?

6.6.1. The construction noise assessment concludes that significant effects are likely to occur at some nearby receptors, but these will be temporary in nature. Mitigation measures to minimise and reduce noise impacts as far as reasonably practicable have been proposed.

### DEMOLITION AND CONSTRUCTION

6.6.2. The construction phase would likely lead to significant effects on the following receptors:

6.6.3. High noise levels are anticipated at receptors close to the Site during the site clearance and foundations, and landscaping and access road construction activities for the worst-case scenario. For the majority of the time, however, it is likely that construction noise levels will be lower than this due to worst-case scenario calculations assuming that construction work is being undertaken in the area of the Site closest to the receptor. Therefore, it is likely that for much of the construction period, noise levels will be lower than those predicted above as construction work is undertaken at greater distances from nearby receptors.

6.6.4. For limited periods during the worst-case scenario, where construction works are occurring closest to the nearby receptors, **moderate or major adverse noise effects (significant)** are anticipated at all nearby receptors.

6.6.5. However, during the average case scenario, which will occur for the vast majority of the construction period **negligible noise effects**.

6.6.6. It is anticipated that the vibration effects would be no greater than **minor adverse (not significant)**.

### OPERATION

6.6.7. An assessment of noise impacts from vehicles associated with the proposed development on the existing wider road network has been undertaken. The assessment concludes that significant road traffic noise effects are unlikely to occur at receptors along the surrounding road network as a result of the Proposed Development.

6.6.8. Noise from the Secondary Road could result in significant effects at existing receptors. However, this assessment is based on the strategic highway model and an indicative road alignment has been assessed at this phase, given the outline nature of the application. As the Secondary Road design progresses, further assessment as well as mitigation measures to minimise and reduce noise impacts such as a 20mph speed limit should be considered wherever possible.

6.6.9. An assessment of the suitability of the Site for its proposed uses (residential, education and external amenity) has been undertaken. The assessment concludes that the site is suitable for its proposed uses, and mitigation measures, such as a suitable glazing and ventilation strategy have been recommended in outline to achieve the target noise criteria, provided in further detail in **Volume 2, Appendix 10.1: Site Suitability Assessment.**

## 6.7 HOW WILL THE PROPOSED DEVELOPMENT AFFECT SOCIO-ECONOMICS AND HEALTH?

6.7.1. The Proposed Development will create construction jobs for local construction labour and those outside West Sussex, resulting in a **minor beneficial** (**not significant**) effect on the West Sussex economy. Once the Proposed Development is completed, there will be opportunities for long-term employment from the proposed business, commercial and community spaces for local people and businesses, with a **minor beneficial** (**not significant**) effect on the West Sussex economy.

6.7.2. The provision of 1,000 homes will contribute to the new housing and affordable housing stocks in Horsham District, with a **moderate beneficial** (**significant**) effect. The Proposed Development will also bring a **minor beneficial** (**not significant**) effect to the West Sussex economy by drawing additional local spend from residents of the private, first home and shared ownership homes.

6.7.3. There is currently no capacity in secondary school places and limited GP services around the Proposed Development. The population model suggests that 2,370 people (including 420 children aged 0 to 17) will reside in the new homes and create demand for school places and GP services. However, the provision of nursery, primary school, secondary school and a financial contribution for GP provision will result in a **negligible** (**not significant**) effect on nursery provision, **minor beneficial** (**not significant**) effect on primary school space provision, **moderate beneficial** (**significant**) effect on secondary school space provision, and **negligible** (**not significant**) effect on GP provision in Horsham District.

6.7.4. In addition to new homes, the Proposed Development will provide open space (including amenity and landscaped space), sports facilities (including sport pitches) for residents, visitors and members of the public to enjoy, with a **moderate beneficial** (**significant**) effect. The provision of 2,800m$^2$ play space to children within the Proposed Development will provide a **minor beneficial** (**not significant**) effect on play space provision local to the Site.

## 6.8 HOW WILL THE PROPOSED DEVELOPMENT AFFECT TRANSPORT?

6.8.1. The assessment of likely significant effects arising from the Proposed Development upon traffic and transport concluded that significant effects are likely to occur in the areas surrounding the Proposed Development.

6.8.2. Eighteen highway links met the ISEP guidelines criteria for further assessment. They consisted of one link of negligible sensitivity; three links of low sensitivity; four links of medium sensitivity; and four links of high sensitivity.

6.8.3. Moderate adverse residual significant effects on NMUs of pedestrian and cycling facilities along Worthing Road between Southwater Street and Cedar Drive in relation to severance and NMU amenity, fear and intimidation.

### DEMOLITION AND CONSTRUCTION

6.8.4. Significant adverse effects have been identified during the demolition and construction works for the following:

- Link 3 - Worthing Road between Southwater Street and Church Lane on non-motorised users (NMUs) – **direct, medium-term moderate adverse effects (significant)** in relation to severance and NMU amenity, fear and intimidation.

### OPERATION

6.8.5. Significant adverse effects have been identified during the operation phase for the following:

- Link 3 – Worthing Road between Southwater Street and Church Lane on non-motorised users – **direct, medium-term moderate adverse effects (significant)** in relation to severance and NMU amenity, fear and intimidation.

## 6.9 HOW WILL THE PROPOSED DEVELOPMENT AFFECT WATER RESOURCES, FLOOD RISK, AND DRAINAGE?

6.9.1. The following sensitive receptors have been identified as part of the hydrology and flood risk ES chapter:

- Receiving Watercourses – The Gill (tributary of River Adur);
- Receiving Watercourses – The River Arun headwaters;
- Existing SWS Foul Sewer Network;
- Construction workers on the Site during the Proposed Development construction phases; and
- End Users of the Site once developed.

6.9.2. These receptors were identified because if left unmitigated during the construction and operation phases, there could be a detrimental impact on these receptors whilst also potentially exacerbating flood risk.

6.9.3. Following the assessment, it is considered that the overall risk to receptors from potential flood risk, drainage, water quality issues across the whole of the Site is ‘Low’ and that no widespread risk is present on the Site, following implementation of mitigation measures.

6.9.4. Mitigation measures to reduce any effects on local water resources, drainage, and flood risk, the surface water drainage system for the Proposed Development will include:

- Designs to manage rainfall from storms up to a 1-in-100 year event, and an extra 45% capacity to account for predicted increases in rainfall due to climate change; and
- Attenuation storage ponds and detention basins, some of which will be permanently wet to provide additional amenity value and potentially enhance biodiversity.

**CONSTRUCTION**

6.9.5. The assessment has found that there may be **moderate to major adverse (significant)** effects upon all relevant receptors as a result of construction activities within the Site prior to the implementation of any mitigation.

6.9.6. This relates to potential for an increased pollution risk to water resources within and around the Site due to construction activities as well as an increased risk of surface water flooding from partially developed areas. Existing public foul water sewer and water mains networks will see increased loads as part of the construction activities being undertaken.

6.9.7. Mitigation of the potential effects during construction include:

- Implementation of a CEMP; and
- A localised surface water run-off management system to temporarily manage pollution and flood risk within the Site.

6.9.8. Foul water from the Site is proposed to be disposed off-site to the SWS foul sewer network.

6.9.9. All residual effects have been assessed as being effective in reducing the risk to **minor adverse (not significant)** following the implementation of the proposed mitigation measures.

**OPERATION**

6.9.10. The assessment has found that there will be a range between **moderate and major adverse** effects upon all relevant receptors as a result of Site operation prior to the implementation of any mitigation.

6.9.11. The implementation of the Surface Water Drainage Strategy will mean:

- There is neutral effect on water quality, as it includes appropriate pollution-control features through SuDS;
- The day-to-day operation of the Proposed Development is not expected to increase flood risk because the amount of water leaving the Site will be limited to no more than the natural (greenfield) runoff rate for a 1-in-100 year storm;
- Increased loadings would still be present upon the existing Southern Water public foul water sewer networks; thus, there is still a potential moderate to major adverse effect upon these networks prior to any mitigation; and
- Mitigation against potential pollution and flood risk adverse effects by ensuring no detriment as flows will be balanced using SuDS features before discharging at equivalent greenfield runoff rates.

6.9.12. Permanent connection applications are to be made to the Southern Water sewer networks subject to confirmation of capacity prior to any connection being made.

6.9.13. All residual effects have been assessed as being effective in reducing the risk to **negligible** or **minor adverse (not significant)** following the implementation of the proposed mitigation measures.

## 6.10 HOW WILL THE PROPOSED DEVELOPMENT AFFECT GROUND CONDITIONS AND CONTAMINATED LAND?

6.10.1. It is considered that the overall risk to receptors from potential contamination on the Main Site and North Site is 'low' albeit with specific potential pollutant linkages being assigned a moderate risk rating.

6.10.2. Mitigation measures across construction and operation include:

- Production of a CEMP outlining construction phase mitigation required to be implemented;
- Remediation of potential sources of contamination;
- Further ground investigations and gas monitoring where required; and
- Material and soil management – stockpiles, dust management, disposal.

### CONSTRUCTION

6.10.3. After proposed mitigation, the residual effects during construction of the Proposed Development on all sensitive receptors assessed, including Site Workers, Adjacent Land Users, Groundwater and Surface Water are expected to be **negligible (not significant)**.

### OPERATION

6.10.4. After proposed mitigation, the residual effects during operation of the Proposed Development on End Users and Soft Landscaping is expected to be **minor beneficial (not significant)**. The residual effects on all remaining sensitive receptors assessed, including the Built Environment, Groundwater, Surface Water and Agricultural Land during operation are expected to be **negligible (not significant)**.

## 6.11 HOW WILL THE PROPOSED DEVELOPMENT AFFECT GREENHOUSE GAS EMISSIONS?

6.11.1. Greenhouse gas emissions occur constantly and widely as a result of natural and human activity, including, energy consumption (e.g. fossil fuels, purchased energy from the grid and/or other sources) and industrial processes.

6.11.2. The key sensitive receptor included in the assessment of effects on greenhouse gases is the global climate.

### CONSTRUCTION

6.11.3. During the construction phase, there will be an increase in greenhouse gas (GHG) emissions compared to the baseline GHG emissions at the Proposed Development, due to the transport of materials to Site as well as additional plant and equipment use. Embedded mitigation measures include optimising material use and use of low carbon materials, reducing construction waste, and embedding end-of-life measure in the design phase which can be explored in the later design phases, resulting in a residual effect of **minor adverse (not significant)**

### OPERATION

6.11.4. The transport carbon emissions during the operational phase of the Proposed Development are estimated to have the highest carbon impact. During the operational phase, approximately 76% of the Proposed Development's total GHG emissions will be produced and therefore there is likely to be a **moderate adverse (significant) effect** prior to mitigation. Following mitigation, the residual effects will be **minor adverse (not significant)**. Embedded mitigation measures include approaches to future grid decarbonisation and from increasing future EV use and embedding sustainable transport in the design such as high frequency bus services.

## 6.12 WHAT CUMULATIVE EFFECTS ARE LIKELY TO OCCUR?

6.12.1. The cumulative effects chapter reports the likely significant cumulative environmental effects associated with the Proposed Development.

6.12.2. There are two types of cumulative effects that form the assessment:

- In-combination effects – this assessment involves considering the effects of the Proposed Development against effects which may occur as the result of other nearby developments; and
- Effect interactions – this may occur when different effects reported in the Environmental Statement for the Proposed Development interact and combine with each other to potentially have a greater effect on the same receptor. For example, a nearby resident may experience visual impacts and noise impacts from the Proposed Development which combined together, create a greater effect than on its own.

6.12.3. There is no specific baseline for a cumulative effects assessment. Instead, this assessment considers the baselines that are provided in the other topic assessments. Similarly, in terms of mitigation, the cumulative effects assessment is based on the assumption that all mitigation outlined in the other topic assessments will be implemented.

6.12.4. There are 18 significant in-combination effects identified in the cumulative effects assessment. Mitigation and monitoring measures for these effects are outlined in **Chapter 6-15** of the ES. These are separated out below for construction and operation.

### CONSTRUCTION

#### Noise & Vibration

- **Moderate adverse** in-combination effects:
  - alongside a proposed sports and leisure hub (planning reference DC/23/1178) on residents immediately adjacent to the Site; and
  - alongside a proposed residential development of up to 540 houses and 54 retirement apartments (planning references DC/14/0590 and DC/24/0772) on residents immediately adjacent to the Site.

#### Landscape and Visual

- **Moderate adverse** in-combination effects:
  - alongside a proposed residential development of up to 540 houses and 54 retirement apartments (planning references DC/14/0590 and DC/24/0772);
  - site-level landscape in-combination effect alongside a proposed residential development of up to 193 houses (planning reference DC/14/2582); and

- site-level landscape in-combination effect alongside a proposed residential development of 131 houses (planning reference DC/11/0657).

- **Moderate to major adverse** visual in-combination effects alongside:
  - a proposed residential development of up to 540 houses and 54 retirement apartments (planning references DC/14/0590 and DC/24/0772) on Visual: receptors using Public Right of Way (PRoW) the Downs Link (bridleway SOW-3568), PRoW SOW-1655, PRoW SOW-1658, SOW-1656; transient receptors of Church Lane, Worthing Road and the roundabout junction with Chessall Avenue, residents immediately adjacent to the Site and residents of Grade II Listed College Farmhouse.

## OPERATION

### Socio-economics

- **Moderate beneficial** in-combination effects alongside a range of developments which include on market housing and affordable housing provision, and commercial, leisure and education facilities within the Horsham District:
  - a proposed care retirement community (planning reference DC/19/1897);
  - proposed housing developments for:
    - 73 houses (planning reference DC/25/1658);
    - 83 houses (planning reference DC/20/2607);
    - 101 houses (planning reference DC/24/1699);
    - 125 houses (planning reference DC/25/1910);
    - 100 houses (planning reference DC/20/0695);
    - 540 houses and 54 retirement apartments (planning references DC/14/0590 and DC/24/0772); and
    - 2750 dwellings and commercial, leisure and education facilities (planning references DC/16/1677).

### Landscape and Visual

- **Moderate adverse** landscape in-combination effects alongside proposed residential developments of:
  - Up to 540 houses and 54 retirement apartments (planning references DC/14/0590 and DC/24/0772) at site level and on Horsham District Landscape Character Area H1 Southwater and Christs Hospital Farmlands and G4 Southwater & Shipley Wooded Farmlands;
  - Up to 193 houses (planning reference DC/14/2582) at site level and on Horsham District Landscape Character Area H1 Southwater and Christs Hospital Farmlands and G4 Southwater & Shipley Wooded Farmlands; and
  - 131 houses (planning reference DC/11/0657) at site level and on Horsham District Landscape Character Area H1 Southwater and Christs Hospital Farmlands and G4 Southwater & Shipley Wooded Farmlands.

- **Moderate to major adverse** visual in-combination effects alongside:
  - a proposed residential development of up to 540 houses and 54 retirement apartments (planning references DC/14/0590 and DC/24/0772) on visual receptors including nearby residents;

6.12.5. There are three significant effect interactions identified in the cumulative effects assessment, outlined below.

**CONSTRUCTION**

- **Moderate Adverse (significant)** effect on residents immediately adjacent to the Site.

**OPERATION**

- **Moderate Adverse (significant)** effect on transient users of Worthing Road, Chessall Avenue and the roundabout junction to the A24 from Worthing Road; and
- **Moderate Adverse (significant)** effect on residents immediately adjacent to the Site.

6.12.6. The construction works will be undertaken in accordance with the UK's 'Considerate Constructors Scheme' to help ensure that contractors carry out their operations in a safe and considerate manner and actively minimise environmental risks, and standard working hours (0800 - 1800 hours on weekdays, 0800 - 1300 on Saturdays and no working on Sundays or Bank Holidays) will be in place during the construction of the Proposed Development. Any exceptions to standard working hours / practices would be agreed with WSCC / HDC in advance. The working hours will be secured via an appropriately worded condition.

6.12.7. A CEMP will be prepared to avoid, minimise and mitigate likely environmental effects as a result of the Proposed Development during construction. The CEMP will be 'live' document and it is anticipated that the CEMP will be prepared and implemented through an appropriately worded planning condition.

# 7 FURTHER INFORMATION

## 7.1 WHAT HAPPENS NEXT?

7.1.1. The Environmental Statement has been submitted together with other planning application documents and drawings to HDC to assist planning officers in deciding on the application. During this period HDC will contact relevant consultees to seek their views on the Proposed Development.

7.1.2. Members of the general public will also be able to provide comments on the planning application which will be made available on the planning register on HDC's website.

## 7.2 WHO CAN I CONTACT FOR MORE INFORMATION?

7.2.1. Further information, including a copy of the planning application documents, the full Environmental Statement and this Non-Technical Summary are available on HDC's website.

7.2.2. Please contact Horsham District Council for further information.

## 7.3 CAN I HAVE A COPY OF THE ENVIRONMENTAL STATEMENT OR THIS NON-TECHNICAL SUMMARY?

7.3.1. The Environmental Statement and this Non-Technical Summary is available to view online on HDC's website.

7.3.2. Please contact HDC for more information regarding availability of hard copies.

## 7.4 REFERENCES


- **Reference 1.1**: Horsham Local Authority Health Profile 2019. Public Health England. [Online] Accessed via: https://fingertips.phe.org.uk/static-reports/health-profiles/2019/E07000227.html?area-name=Horsham

WSP House
70 Chancery Lane
London
WC2A 1AF

**wsp.com**

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